

Birla Central Library

PILANI (Jaipur State)

Class No :- 332

Book No :- R25M

Accession No :- 19694 -

Money, Currency
AND
Banking

Money, Currency

AND

Banking

BY

HAROLD L. REED

*Robert Julius Thorne Professor of Economics
in Cornell University*

FIRST EDITION
SECOND IMPRESSION

McGRAW-HILL BOOK COMPANY, Inc.
NEW YORK AND LONDON
1942

MONEY, CURRENCY, AND BANKING

COPYRIGHT, 1942, BY THE
MCGRAW-HILL BOOK COMPANY, INC.

PRINTED IN THE UNITED STATES OF AMERICA

*All rights reserved. This book, or
parts thereof, may not be reproduced
in any form without permission of
the publishers.*

THE MAPLE PRESS COMPANY, YORK, PA.

Preface

This book was undertaken at the request of some of the author's classroom students in Money and Banking. The complaint of these students was that available works indicate excessive zeal on the part of the writers to present the subject categorically and factually; to build, in other words, on the foundations of Horace White and provide little encyclopedias of financial institutions. These students have contended that the emphasis of a work written today should be to prepare for a better understanding of recent and revolutionary developments both in monetary policies and in theoretical interpretation. To accomplish the basic purpose the students insisted that the significance of important events in our financial history be reexamined and reappraised.

Whether these criticisms are wholly justified is a difficult question to try to answer. Without accepting them in full measure the author has tried, nevertheless, to keep them in mind in the preparation of this work. Some neglected material is introduced that has significant applications. It is sometimes embarrassing to follow this material to its logical end. But it should be admitted by the writer, as well as by everyone else, that the statement should not be toned down to protect against professional criticism. It is only important that the writer be frank and honest with his readers.

In places in which it was feared the pruning knife may have been wielded too blithely effort is made to repair neglect by brief notes in the appendixes to the various chapters. Reading references are suggestive only and usually include just a few of the author's favorites.

It is hoped that this type of work will meet the needs of general readers as well as of college students in economics. In severity of reasoning the author has tried to pitch it at the proper tone for those who have had some training in economic principles. The writer is not one of those who believe that courses in economics should become less exacting the farther the student goes.

HAROLD L. REED.

CORNELL UNIVERSITY,
January, 1942.

Contents

	PAGE
PREFACE	V
CHAPTER	
I. THE FUNCTIONS OF MONEY AND CURRENCY CONTRASTED	1
II. OUR CURRENCY SYSTEM	12
III. HOW BANKS PROVIDE THE PAYMENT MEDIA	30
IV. LIMITATIONS UPON THE CREATION OF REDEMPTION CURRENCY	41
V. THE GOLD STANDARD—ITS MEANING AND SIGNIFICANCE	51
VI. DOMESTIC EXCHANGE	61
VII. EXCHANGE BETWEEN FIXED GOLD CURRENCIES	71
VIII. PAPER CURRENCY AND SILVER EXCHANGES; COMPARISONS WITH GOLD EXCHANGES	83
IX. FOREIGN EXCHANGE PRACTICES	94
X. THE TRIUMPH OF THE GOLD STANDARD IN THE NINETEENTH CENTURY	106
XI. TRANSITIONS FROM SILVER AND PAPER STANDARDS TO GOLD. EAST INDIA	119
XII. TRANSITIONS FROM SILVER AND PAPER STANDARDS TO GOLD (<i>Continued</i>)	131
XIII. THE DETERMINATION OF THE VALUE OF THE MONETARY UNIT; THE TRANSACTIONS EQUATION OF EXCHANGE	140
XIV. THE USEFULNESS OF THE EQUATION OF EXCHANGE	151
XV. THE SOURCE OF BANK DEPOSIT CURRENCY	165
XVI. LOCAL LOANS AND MORTGAGES—THE TREND TOWARD MARKETABLE INVESTMENTS	177
XVII. OUTER MARKET INVESTMENTS	191
XVIII. CAPITAL AND THE BOND ACCOUNT	205
XIX. EARNINGS AND THE MAINTENANCE OF SOLVENCY	217
XX. DEPOSIT RESERVES PRIOR TO 1913	228
XXI. THE LOGIC OF AMERICAN BANKING DEVELOPMENT	240
XXII. THE RATIONALE OF THE FEDERAL RESERVE ACT	252
XXIII. CHANGES IN FEDERAL RESERVE TECHNIQUE SINCE 1913	264

CHAPTER	PAGE
XXIV. FACTORS INCREASING OR DECREASING THE VOLUME OF MEMBER BANK RESERVES	276
XXV. PRINCIPLES OF WAR FINANCE.	292
XXVI. ENGLISH MONETARY POLICY FROM THE FIRST WORLD WAR UNTIL THE CLOSE OF 1924	303
XXVII. THE ENGLISH RETURN TO GOLD IN 1925 AND ITS IMME- DIATE MONETARY CONSEQUENCES	315
XXVIII. THE FAILURE OF AMERICAN SUPPORT OF ENGLAND'S GOLD STANDARD.	324
XXIX. THE ENGLISH EXCHANGE EQUALIZATION ACCOUNT . . .	334
XXX. DEFLATION AND THE COLLAPSE OF THE AMERICAN BANKING SYSTEM.	346
XXXI. THE 1933 COLLAPSE OF THE BANKING SYSTEM AND THE BANK-REOPENING LEGISLATION	358
XXXII. GOLD REVALUATION	367
XXXIII. THE WISDOM OF THE 1933-1934 GOLD POLICY. . . .	377
XXXIV. THE COMMODITY DOLLAR AND PRICE STABILIZATION . .	391
XXXV. GUIDES TO FEDERAL RESERVE POLICY.	401
XXXVI. ARMAMENT FINANCING AND THE CONTROL OF INFLATION .	413
XXXVII. THE 100 PER CENT RESERVE PLAN.	425
XXXVIII. KEYNESIAN AND OTHER DOCTRINES THAT STRESS THE RELATIONSHIP OF SAVINGS AND INVESTMENT	438
XXXIX. OUR FUTURE MONETARY SYSTEM: THE GRAHAM STORAGE PROPOSAL.	455
XL. PRINCIPLES OF BANKING REFORM.	469
APPENDIX	485
REFERENCES.	509
INDEX.	517

MONEY, CURRENCY, AND BANKING

CHAPTER I

THE FUNCTIONS OF MONEY AND CURRENCY CONTRASTED

DISPUTES ABOUT THE MEANING OF "MONEY"¹

Almost everyone agrees that, whatever our form of political organization, the thing we call "money" is indispensable for the fullest development of trade. Even in Soviet Russia and Nazi Germany, nations whose philosophical apologies emphasize a distinction between production and money making, where state decrees have been largely substituted for automatic price controls as a means of directing industrial activity, it has been found impossible to do without "money." Early efforts of revolutionary Russia to abolish "money" or to destroy its value were later abandoned, probably through sheer necessity. The simple fact is that something in the nature of a money of account or a common medium of payment—we are not yet ready to conclude which of the two is the more important—is required if our economy is to function most effectively.

With this conclusion generally accepted, the student no doubt has a right to expect that economists, of all persons, would have no difficulty in agreeing among themselves as to the proper definition of that which we term "money." Neither would the student anticipate serious difference of opinion among authorities as to the significant services rendered by "money." But any

¹ Until we have developed a precise definition of "money," the term will be kept in quotation marks. In other places, also, in which, according to later argument, we employ the term incorrectly, quotation marks may also be used to indicate common usage.

wide reading of monetary literature soon shatters any such expectation. Some economists emphasize the role of "money" as a means of escaping the exchange difficulties of sheer barter. Other economists, however, are more impressed by the fact that "money" provides a simple means of determining the relative market values of different goods (the common denominator function). To thinkers of this latter inclination it is more important that we provide ourselves with a "money of account" than with a common "medium of payment." Still other economists stress other functions of "money," such as the fact that it is usually stipulated as the required tender in the discharge of contractual debts. It is also contended that "money" is significant as a bank reserve and, in periods of declining prices, as a superior storehouse of value.

RESULTING CONFUSIONS IN TERMINOLOGY¹

These difficulties in determining the most significant service of "money" to man have led economists to engage in all sorts of evasions and sophistries. One of the most reprehensible of these has been to avoid the whole problem of distinguishing between that which is basic and that which is auxiliary merely by listing the "functions of money" and letting it go at that. But such procedure only postpones difficulty. At some point or other in the analysis it will be necessary for the writer to let the reader "in" on the question whether "money" refers to the medium physically employed in the settlement of an obligation or to the pecuniary value of the obligation. To make himself clear in such passages the economist is likely to seize upon other terms and concepts, most of which are taken over from business usage. Thus the writer, or speaker, wanders in his choice of terms between "money" and "currency"; between "currency" and "credit"; between "credit" and "cash." Since it is no responsibility of business to provide the scientist with a correct terminology, confusions multiply, and the student is unable to ascertain what it was that led the writer to use one term instead of another. The writer either has not cared to be frank with his reader—a cardinal sin—or his own thinking is muddled.

¹ It is suggested that the beginning student read this chapter through before reading Note I, Chap. I, in the Appendix.

OUR APPROACH SHOULD BE LOGICAL, NOT HISTORICAL

The monetary economist meets other dangers than those attributable to the invasion into his field of carelessly derived business usage. He has also felt a little awed in the presence of the historian, the anthropologist, and the student of numismatics; and he has deferred to their findings to perhaps an excessive degree. To determine what "money" principally does today, the economist, acquainted with these other disciplines, is tempted to begin his analysis by inquiring how "money" came into being among the primitive tribes from which our cultures have sprung. In thus proceeding the monetary student gains much valuable information. He perhaps obtains an insight into the importance of psychological factors; he may learn that there is a difference between what a government intends a people to do and what the people will in fact do.¹ But in finding an answer to the basic problem—what "money's" essential service is—the student should not begin with anthropological or historical investigations. "Money" may have subserved certain functions during the period of its early development and gradually have been turned to other uses.

Certainly this has been true in other fields of man's cultural development—so why may it not also be applicable to "money"? Possibly only a fraction of the innumerable inventions that have led to the perfection of the automobile were originally intended to serve our transportation needs. Buttons may have once been sewed on the sleeves of soldiers to induce sanitary habits. Now they are regarded as ornaments. Surely it is not required that students of architecture study the habits of lake dwellers before acquainting themselves with the needs of apartment-house dwellers.

To speculate on the historical origin of "money" is interesting. Eventually, moreover, we may be obliged to draw upon history to defend our findings. One of our tasks is to interpret historical development as well as to analyze current problems. But the first prerequisite is that we take the structure of modern economic society essentially as it is in its basic features and inquire what we should lose most if we should be obliged to do without that which, without formal definition, we feel to be "money." To begin the

¹ See Appendix, Note II, Chap. I.

analysis let us inquire whether more damage would be done by depriving economic society of a universally accepted means of determining the exchange values of different commodities or, on the other hand, whether we would suffer the more if we should be compelled to do without a common medium of payment.

THE NEED OF A "MONEY" OF ACCOUNT

No one will deny that the services of "money" as a means of measuring the exchange values of economic goods are tremendous. Without ability to evaluate goods in terms of a single "standard" it would be well-nigh inconceivable that trade could be conducted on its present scale. Calculations could not be made with the facility necessary in a society that has achieved a high degree of specialization. In a community in which only 5 goods are assumed to enter into trade there would be 10 exchange ratios ($4 + 3 + 2 + 1$) instead of 5 prices each of which can readily be compared with any other price. In a community with 10 commodities of commerce there would be 45 exchange ratios instead of 10 prices. One hundred commodities would give rise to 4950 exchange ratios instead of only 100 prices.¹ Traders, to be sure, would not be required to know all exchange ratios. But modern trade does require that there be frequent and easily made comparisons between costs of particular goods and costs of substitute or complementary goods. It is also to be remembered that the goods that come within the classification of substitutes change

¹ Let the 5 commodities be *A, B, C, D, E*. The exchange ratio of *A* to *B* may be expressed as A/B , that of *A* to *C* as A/C , and so on. A complete list of exchange ratios for these five commodities would then be:

1. For the *A*'s— $A/B, A/C, A/D, A/E$. Total = 4.
2. For the *B*'s— $A/B, B/C, B/D, B/E$. Total not given before = 3.
3. For the *C*'s— $A/C, B/C, C/D, C/E$. Total not given before = 2.
4. For the *D*'s— $A/D, B/D, C/D, D/E$. Total not given before = 1.
5. For the *E*'s— $A/E, B/E, C/E, D/E$. Total not given before = 0.

The sum of the totals of exchange ratios is thus $4 + 3 + 2 + 1$, or 10. For 10 commodities the sum of the totals would be

$$9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 \text{ or } 45.$$

The formula for the determination of the maximum number of exchange ratios would be $(n - 1) \frac{n}{2}$ or $\frac{n^2 - n}{2}$, where n refers to the number of commodities.

constantly with the progress of technology and invention, with fluctuations in outputs and demands proceeding from any cause whatsoever. Without a simple means of determining exchange ratios there could scarcely be any highly advanced business planning. All sciences, moreover, require quantitative units of analysis; "money" is to the economist what horsepower is to the physicist, the atom to the chemist, the calory to the student of dietetics.

THE NEED OF A COMMON MEDIUM OF PAYMENT

There is thus no gainsaying the importance of a "money of account." But let us be fair. Would not modern trade be equally, or perhaps even more greatly, handicapped if a common medium of payment had not been developed? Perhaps it would. It may also be true that the use of such a means of payment would shortly result in the practice of reckoning obligations in terms of this unit. In point of time, therefore, and this is a controversial question, the common denominator function may have been subsidiary to the medium of payment function.

Much is to be said for this point of view. Under barter, trade can take place only between parties each of whom possesses what the other party desires or is able to obtain by trade with a third party. Such inconveniences and obstructions to commerce, usually summarized under the heading of the "double coincidence of barter," make the means of discharging obligations more significant than the concepts and conventions fundamentally necessary if there is to be any large volume of obligations to discharge.

"MONEY" REFERS TO THE PECUNIARY VALUE OF AN OBLIGATION; "CURRENCY" TO THE INSTRUMENTS EMPLOYED TO DISCHARGE OBLIGATIONS

It is thus about as easy to extol the advantages of a common medium of exchange as of the convention of stating debts in terms of an accepted unit. It also cannot be disproved that the use of a common medium of payment would not lead just as inevitably to the use of a "money of account" as the use of a "money of account" would result in the creation of media to represent the "money of account." The medium of payment function and the unit of account function seem to have equivalent

logical primacy. Despite all this, however, we are led to declare the sole function of "money" to be that of providing a unit of pecuniary accounting. Since it is intended in business transactions that accounts be paid, "money" refers to the amount of a debt that has to be discharged if agreements and understandings are to be upheld. But "money" does not mean the instruments that are used to discharge pecuniary debts.

Is the above-stated distinction purely arbitrary on our part? We think not entirely. Other terms in common speech imply more decisively than "money" the medium of payment function. The most distinctive of these is "currency," a word that connotes solely that which circulates and is physically transferable. It is an advantage to employ terms with single instead of double meanings. If "money" can be used to refer to so many units (dollars, pounds, francs) of a pecuniary obligation, the term "currency" can be confined to those elements the tender of which discharges the obligation.

The distinction between money and currency, thus preferred, is probably also serviceable in interpreting the most interesting and important of monetary problems. As indicated previously, the economist is not greatly concerned with the factors originally responsible for the convention of stating debts in terms of particular units. But after such a convention had developed (probably without any high degree of purposeful thinking)¹ it became inevitable that conflicts would arise between different social groups regarding permissible methods of discharging pecuniary debts. Debtor classes, particularly when the value of the currency unit rises, will demand the right to meet obligations in a cheaper medium. Even if their demands are met, the result will not likely be a change in the unit of account. The dollar will continue to be a dollar, the pound a pound, the franc a franc. What may be changed will be the thing that has to be transferred in order to discharge the debt.

To distinguish between the unit of pecuniary accounting and the instruments legally or conventionally accepted to discharge debts simplifies the interpretation of such episodes. The same conclusion will also be illustrated, it is hoped, in the treatment of many other problems. Throughout this book, although we shall often have to defer to popular usage, we shall try to be as con-

¹ See below, p. 42.

sistent as possible with this terminology. The term "currency" will include three subelements. The more important of these is bank credit, a promise by a bank to provide the owner with other acceptable means of payment. Transfers of such (deposit) credits on the books of banks represent by far the most important way by which debts are discharged in our economy. The less important elements in our currency, coins, government bills, bank notes, we shall denominate, according to the manner in which they are used, either "redemption" or "circulating" currency. Redemption currency will usually refer to instruments of circulation retained by banks to assure their ability to convert deposit credits into an acceptable medium.¹ Circulating currency, on the other hand, will generally refer to those payment media in the hands of the public other than bank deposit credits.² The proper title for this book would therefore seem to be *Money, Currency, and Banking*.

Bank (or bank deposit or simply deposit) credit includes in turn two subelements, demand deposits and time deposits. In the case of demand deposits advance notice need not be required if the credit is to be converted into circulating currency or transferred, usually by a check. Such notice may be required, however, if there is a demand for the conversion of time deposits.

¹ An interesting question about the content of "redemption" currency arises when one bank maintains a deposit credit in another bank. Member banks of our Federal Reserve System hold balances at a reserve bank. These balances, save in exceptional circumstances, cannot be transferred to the public and thus become "circulating" currency. But Federal reserve balances may be converted into other currency of a type the public can use. Credits at the Federal reserve bank possessed by a member bank might thus be regarded as "redemption" currency.

Suppose, however, one bank has a credit balance at a second bank, which bank, in turn, has a balance with a third bank. From the standpoint of the three banks as an entity it would be double counting to consider both balances as redemption currency. The ability of the second bank to provide circulating currency to the first will depend in part on its ability to acquire such currency in exchange for its balance at the third bank.

² There will be occasions, however, in which it will be required that the term "circulating currency" include currency in bank vaults, as well as that in the hands of the public. Most authorities use the term "money in circulation" to refer to all currency other than bank deposit credit outside the Treasury and the reserve banks. The best we can do here is to ask the reader to rely on the context to determine whether "vault cash" is included in circulating currency.

Considerable controversy has developed about the question whether time deposits are to be included in the category of currency.¹ Our consideration of this question, as well as of its significance, will have to be postponed.

ILLUSTRATIONS OF CORRECT AND INCORRECT TERMINOLOGY

In deference to our conclusions, what misuses of terminology should we avoid? The term "money market" we must not deliberately employ. It refers to the price (interest) paid to obtain a supply of credit (or circulating currency). We shall therefore prefer such terms as the "loan market" or the "credit market." Similarly we shall not speak of the quantity theory of money² but rather of the quantity theory of currency if the emphasis is that of the effect on the value of the monetary unit of a change in the outstanding volume of currency. No objection, however, should be made to such terms as the "monetary system" because such an expression refers to the various elements in our currency which discharge a money debt.

HISTORICAL ILLUSTRATIONS OF THE DISTINCTION BETWEEN MONEY AND CURRENCY

Although we have eschewed anthropological or historical investigations as a point of departure, important monetary events require the distinction we have made if our thinking is to be clarified. In support of this opinion a few commonplace illustrations may be adduced. The term "pecunia" probably originated in the disposition of pastoral peoples to express the value of other goods in terms of their most prized possession, cattle. Relatively seldom, however, after other forms of wealth had come to vie with cattle, did a pecuniary debt result in the physical delivery of a cow. In reversal of this development, natives of East India generally express debts in terms of rupees. The actual medium of payment, however, may perhaps be grain or, in large transactions, titles to land. In the American colonies the early settlers did not abandon the custom of stating debts in terms of sterling. But, as their balance of trade was usually in favor of England, colonists were generally short sterling currency. They therefore continued to express debts in terms of sterling, but employed

¹ See below, pp. 146-147; 169-171.

² See Chaps. XIII and XIV.

other media, among which tobacco, wampum, and Spanish dollars were prominent, to discharge sterling debts.¹

COMPARATIVE UNIMPORTANCE OF OTHER ALLEGED FUNCTIONS OF "MONEY"

What, however, shall we say about the remaining alleged functions of "money"? Take first of all the role of money as a standard of deferred payments. It would be expected, of course, that long-term obligations would require payments in the same medium as middle-term, just as it would be presupposed these latter would call for payment in the same medium as short-term transactions. The time concept is involved in all transactions. Even in the case of a cash or spot operation the delivery of a good or service may be regarded as creating a debt which is almost immediately discharged by a transfer of currency. The expression "standard of deferred payments" has no utility except to imply that when a long interval elapses between contract and settlement the value of the monetary unit may have changed widely. In such instances it may be revealing to assert that the money unit has been a poor standard of deferred payments. But the same thought could be more simply expressed merely by saying that prices or, conversely, the value of the monetary unit have changed. This latter statement would in fact be preferable in that it would not imply without proof that it is a fault of the monetary system that prices have changed. The cause of price changes may be such nonmonetary factors as invention, improved technique of manufacturing, exhaustion of raw materials, or scanty rainfall. It might be that monetary efforts to offset the resulting movement of prices would have had effects.

How useful is it to say it is a function of "money" to provide a "storehouse of value"? What is really implied by this expression is that, when price declines are correctly anticipated, it is smart to convert other assets into currency. But other means of escaping the consequences of falling prices may be available. When some goods are falling in price others may be rising. If a

¹ For other illustrations, see W. W. Carlile, *The Evolution of Modern Money*, pp. 28-30; see also another classic by William Ridgeway, *The Origin of Metallic Currency and Weight Standards*.

See also, if uninformed, Appendix, Note III, Chap. I, in regard to problems resulting from the necessity of rating a currency in terms of a "money of account."

diamond is the good whose price is rising we would not enumerate its essential qualities in such a way as to include that of insurance against a possible later fall in price. To have such a quality it would be necessary that diamonds be universally the good that will not decline in price. Currency, similarly, may move downward in value, as well as upward. Not until after the event can the utility of currency as a storehouse of value be determined. It is confusing to hold that it is a unique function of "money" to provide a safe means of conserving value when other media might prove to be superior. Whether "money" would be the superior medium cannot be determined in advance.

This latter point, perhaps, deserves illustration. During the recent bombing of London a homeowner advertised his home for sale as a "bombproof" residence. When asked to substantiate his claim he merely pointed out that his home had escaped previous raids. Is it not equally illogical to regard "money" as a universally superior storehouse of value when a possible fall of its purchasing power would make it a poor instrument of conserving values?

Another function of "money" is asserted to be that of serving as a bank reserve. This statement reveals little, however, except that there are different classes of currency. Bills and coin in hand-to-hand circulation are sometimes characterized as low-powered "money,"¹ just as redemption currency held by banks and member bank balances at the Federal reserve banks are held to be high-powered "money." Such distinctions are useful in that they call attention to the fact that some kinds of currency are acceptable because they are promises to pay other forms of currency. The amount of bank credit may greatly exceed the redemption currency by which it is supported. This fact, however, has no more significance than the mere statement that certain types of currency have different qualities than other types.

At the outset of our discussion, therefore, we are unwilling to concede that what is termed "money" has more than two primal functions—to serve as a unit of account and hence of pecuniary obligations and to provide a common medium of payment. We have advanced reasons for not employing a single term to include

¹ See W. Randolph Burgess, *The Reserve Banks and the Money Market*, pp. 5-8.

that which performs both functions. The term money here refers to the unit of account, and we care naught at this point as to the original causes of the money convention. The term "currency," on the other hand, refers to the specific instruments that are physically transferred as a medium of payment. The most important element of currency is bank credit, but currency includes redemption and circulating currency also.

CHAPTER II

OUR CURRENCY SYSTEM

THE TANGIBLE THING IS "CURRENCY"

If the argument of the preceding chapter is sound, "money" is an abstract thing and therefore difficult to comprehend. As Mr. R. G. Hawtrey has put it,¹ "Money is one of those concepts which like a teaspoon or an umbrella but unlike an earthquake or a buttercup, are definable primarily by the use or purpose which they serve." We have contended that the principal service of money is to provide a means of determining the exchange values of goods and of stating the magnitudes of pecuniary debts. What we mean when we say that the price of an article is \$2 is only that this article is evaluated in the market twice as high as another article that commands a price of \$1, and that its sale creates two times as large an obligation.

The instruments that are employed to discharge money debts, however, can be classified and, if we have the necessary information, measured statistically. If these instruments are considered economic goods, their utilities are not comparable with those provided by food, shelter, and amusement goods. Currency merely facilitates the readier exchange of those goods which directly satisfy man's wants.

COMPLICATED CHARACTER OF OUR PAST CURRENCY "SYSTEM"

But even though "currency" is the tangible thing, an understanding of the working of our currency "system," particularly that of the past, presents difficulties. We have not just one medium in our system, but several. Some of the media have been introduced for one purpose, others for another, and these media at times have provided the holder with varied power to discharge a pecuniary debt. To maintain homogeneity in our currency system it has not been sufficient merely to express the

¹ *Currency and Credit*, 3d ed., p. 1, Longmans, London and New York, 1928. Reprinted by permission.

different elements in terms of the same denominational unit, the dollar. It has been necessary also to adopt devices so that any one of our dollars would be as acceptable as any other.

Since 1933, however, considerable progress has been made in simplifying our currency system. The most important element in circulation, bank deposits, is a promise of a bank to pay lawfully recognized currency. The remaining forms of currency are equally valuable at law as debt-discharging media, that is, they have full legal tender power. The element in our circulation that in the past sometimes appreciated in terms of other elements, gold coin or gold certificates, has been withdrawn from circulation. It is relatively unimportant at the present time that we distinguish between the different forms of nondeposit currency. This, however, has not always been true. Neither can it be guaranteed that existing arrangements will continue indefinitely.

FEDERAL RESERVE NOTES

In this chapter our first concern will be to provide a brief explanation of the content of nondeposit currency. Since Federal reserve notes are quantitatively the most important form of nondeposit currency, we may begin by asking how bank notes of any type came to be employed as currency. The first answer to this question is that the development of bank "issue" powers lay in the general course of currency evolution. It is sometimes said, perhaps erroneously, that modern banking really began with the organization of the Bank of England in 1694. But prior to this time the goldsmiths of London had developed the practice of issuing receipts against the deposits of coin, bullion, or other valuables. When such receipts gave title to full-weight coin and were properly endorsed they were a preferred form of payment in a period in which so much of the currency was clipped or debased coin. It was more or less inevitable that these receipts should come to be stated in round, even sums and put out in the form of promises to pay, not a specified person, but the bearer. When it became legitimate to issue such obligations to an amount exceeding the coin or bullion held by the obligor, one of the characteristics of modern banking had evolved. The principal assets of a bank consist generally of the obligations to the bank of its debtors, rather than its holdings of specie. England gave approval to this principle in permitting an incorporated institu-

tion, the Bank of England, designed to have close relations with the treasury, to issue notes not backed by specie. From then on the question was largely what institutions should be permitted to exercise the issue power.

Outside England evolution followed the same general pattern except that deposit banking and the use of checks developed more slowly. But when deposit banking reaches full development, note issues perform a different function. The note is then of principal significance in that it buttresses the deposit operations of the banking system. Demands by bank depositors for circulating currency may now be satisfied by a tender of notes. In this way the specie holdings of the bank may be preserved. Withdrawals of currency by deposit holders then require less contraction in the deposit volume.

To what extent, however, should banks, in an age of deposit banking, be permitted to issue such "bearer" currency? To say that there should be no restrictions would be equivalent to holding that the determination of the outstanding volume of currency is not a governmental responsibility. If banks are to retain their issue powers they must operate under definite restrictions. It has been a responsibility of the legislative bodies to determine the form these restrictions should take.

A large part of the history of American banking has to do, therefore, with the choice of restrictive devices. Among the devices adopted by early lawmakers was the fixation of a definite amount of note issues for particular banks, perhaps to an amount equal to the issuing bank's capital and surplus; the prohibition of the reissue of notes of other banks; requiring the deposit with a governmental agency of approved collateral for the especial protection of noteholders.

These and other regulatory devices were variously relied upon in this country in the days prior to the organization of our central banking system, the Federal reserve banks, in 1914. With the Federal Reserve System in operation, however, it was almost inevitable that note issue powers, sooner or later, would be concentrated in the reserve banks. The Federal Reserve System's principal responsibility is to regulate the outstanding volume of the country's currency. Then, again, and despite such technical points of organization as member bank ownership of the reserve banks, the latter institutions are in many respects to be regarded

as governmental institutions. Their policies are supposed to be determined not so much by the desire to make profits as by the obligation to keep the country's currency in a sound condition. The reserve banks were the logical agencies to be entrusted with power to provide one of the currencies in terms of which the principal medium, bank deposits, may be redeemed. For this and other reasons Federal reserve notes were made obligations of the United States in the original Federal Reserve Act and were redeemable in gold or lawful currency.¹

In 1933, however, as we shall see later, this country adopted a series of measures estopping conversion of other currency, including the Federal reserve notes, in gold. To maintain the acceptability of Federal reserve notes, it was provided by statute that they should be given the status of a legal tender currency. The reserve notes should thus be as acceptable as any form of currency. But it should be noted that the original device of providing for their convertibility in another and superior form of currency is no longer operative.

STANDARD SILVER DOLLARS AND SILVER CERTIFICATES

Next to Federal reserve notes, silver certificates are now the most important form of our nondeposit currency. This fact is peculiar because silver lost the contest in the nineteenth century to achieve equal status with gold as our basic (standard²) currency. The details of this contest, it is believed, do not deserve elaboration here. The reader especially interested in the history of bimetallism in the United States should consult one of the authoritative texts.³

In 1873, Congress passed an act estopping the coinage of silver on private account and since then the mints have never been

¹ Other lawful currency was in fact redeemable prior to 1933 in gold.

² The meaning of the term "standard" is discussed below, pp. 52-53. For the present, at least, we shall assume standard currency is that currency whose value as a commodity is roughly equivalent to its monetary value. A synonym of standard coins might be "full-weight coins." In a gold standard regime, paper currency and lightweight coins may be kept at their face value by providing for their conversion into a stipulated amount of the standard metal, which metal is convertible, perhaps, into currency by providing for the coinage of the standard metal on private account in unlimited quantities. For the terms of gold coinage prior to 1933, see Appendix, Chap. II, Note I.

³ See References, p. 29.

reopened to the unlimited coinage of silver. By 1878, however, the silver interests were sufficiently strong to secure the passage of an act providing for a restricted degree of silver remonetization. The terms of this act we must first study in order to understand how by March, 1941, 1650 million dollars of silver certificates and 50 million standard silver dollars had got into circulation.

The Bland-Allison Act of 1878 was passed in response to the demands of representatives in Congress of the silver-producing states that the silver producers receive a better price for their product and the demands of the inflationists that more currency be injected into circulation for the purpose of resisting declining tendencies in commodity prices. It was provided that the Treasury should purchase a specified amount of silver bullion—not less than 2 million or more than 4 million dollars' worth per month—at its market price and coin this bullion into silver dollars. This and subsequent acts also provided for the issuance of silver certificates as the circulating medium against silver dollars retained in the Treasury. In the 12 years during which this act remained a statute 378,166,000 silver dollars were coined.¹

In 1890 the Bland-Allison Act was superseded by the Sherman Act. Under this latter statute the Secretary of the Treasury was directed to purchase each month 4.5 million ounces of silver bullion and to issue in payment therefor legal tender notes (the Treasury notes of 1890). The total amount of silver purchased under this act before its repeal in 1893 was 168 million fine ounces. The total cost, however, of these silver purchases was 156 million dollars, so this latter sum represented the addition to the currency for which the Act of 1890 was immediately responsible.

From 1893 to 1933 there was a lull in legislation providing for the remonetization of silver. But on Dec. 21, 1933, the President proclaimed (under the authority of the Inflation Bill of May 12, 1933)² that our mints should be open to the coinage of all domes-

¹ The Secretary of the Treasury always chose to purchase the smaller amount—\$2,000,000, per month. For this reason the student might expect the total coinage from 1878 to 1890 to have been roughly \$288,000,000 ($12 \times 12 \times \$2,000,000$). But silver was purchased at cost and as its market price fell the expenditure of \$2,000,000 per month purchased more silver. In this respect the Bland-Allison Act operated differently than its successor act, the Sherman Act of 1890. The number of months of Bland-Allison coinage, also, was not exactly 144.

² See below, p. 371.

tically produced silver at the rate of \$1.29 per ounce. The government retained one-half of the silver thus acquired, however, as a seigniorage charge, so that producers of silver received 64.5 cents per ounce. This proclamation was in accord with an agreement made at the London conference of 1933 with 66 governments in which it was concluded, for reasons that were never clear to most economists, that efforts should be made to increase the monetary demand for silver. By subsequent proclamation the President established varying prices for domestically produced silver. Under the terms of the Act of July 6, 1939, a price of 71.11 cents per ounce was fixed for purchases of such domestic silver after July 1, 1939.

By the Silver Purchase Act of June, 1934, Congress directed the Secretary of the Treasury to buy silver at home or abroad on such terms as were deemed in the public interest. The guiding principle in these operations would be to acquire silver until it should have a total monetary value (\$1.29 per ounce)¹ equal to one-third of the monetary value (\$35 per ounce) of the country's gold stocks. Silver certificates were to be issued to an amount not less than the cost of all silver purchased under the act. In addition the Secretary of the Treasury was authorized, but not required, to issue certificates to an amount equal to the monetary value of the purchased silver.

By the terms of these latter acts the circulation of silver currency (standard silver dollars and silver certificates) was increased from 436 million dollars in December, 1933, to 1702 million dollars in March, 1941. And the silver circulation is still increasing.

Prior to 1933, the equal value of the silver dollars with other forms of currency was maintained by the policy² of redeeming silver at the Treasury on demand in fixed amounts of gold, that is, 23.22 grains of pure gold per dollar. After the abandonment of gold conversion in 1933 other means had to be employed to sustain the acceptability of the silver dollar. Under the terms of the Inflation Bill of May 12, 1933, as amended by the Act of June 5, 1933, it was provided that all coins and currencies of the

¹ The "standard" silver dollars contain $371\frac{1}{4}$ grains of fine silver. There are 480 grains in the troy ounce. Dividing 480 by $371\frac{1}{4}$ gives 1.29.

² See Act of Mar. 14, 1900—"An act to define and fix the standard of value, to maintain the parity of all forms of money issued or coined by the United States, to refund the public debt, and for other purposes."

United States heretofore or hereafter coined should be legal tender for all debts, public and private. All nongold forms of currency now have equivalent debt-discharging power, and, as indicated above, gold currency has been withdrawn from circulation.

Economists have been almost unanimous in condemning the wisdom of the afore-mentioned silver purchase acts. Insofar as the emission of silver certificates was intended to lift prices, it would seem—the worthiness of the objective conceded—that a cheaper form of currency, one composed of costless paper, would be just as effective. Apologists for the silver purchases sometimes maintain, however, that it is easier to maintain the fiction that the currency has real security when it is backed by something tangible like silver bullion. To adopt this position, however, would be to abandon the only doctrine by which justification could be found for the withdrawal of gold convertibility.

What is principally significant at this point, however, is the fact that our metallic currency in legal circulation in denominations of a dollar and above now consists entirely of the metal that lost the battle of the standards. Silver was defeated by gold before the close of the nineteenth century. But after the gold standard was abandoned in 1933, gold went out of circulation and the silver circulation was increased. A large part of the effect of the recent silver legislation, however, has been merely to reduce the need for Federal reserve note currency.

SUBSIDIARY SILVER AND MINOR COINS— A MECHANICALLY CONTROLLED ELEMENT

Policy decisions have little to do with the amount of fractional coins of silver, copper, or nickel that will be introduced into circulation. At the present time the guiding principle is for our mint authorities to provide only so much of the fractional currency as may be required to meet the demands of trade, demands the intensity of which is determined by the amount of the currency of the larger denominations that is in effective circulation. The supply of fractional currency is determined by obedience to a mechanistic principle—that of producing the proper ratio between the outstanding quantities of the small and the large denominations.

It took this country considerable time, however, to discover the proper principles of subsidiary currency. Prior to 1853 the

country's policy was to permit the coinage on private account of silver¹ as well as of gold, under the theory that the holder of silver bullion would elect to receive from the mints that form of currency the need for which in circulation was relatively the most intense. After the Act of 1837, however, the mint price of silver was made less favorable to the coinage of silver (that is, more favorable to gold), and there were times when silver coinage was inadequate. This was not so disturbing in the larger denominations because in this realm gold coins and bank notes would meet requirements. In the smaller denominations, however, serious difficulties were encountered in securing the desirable amount of fractional currency.

By the Subsidiary Currency Act of 1853² the metallic content of fractional silver coins was reduced from $371\frac{1}{4}$ to 345.6 grains per dollar. This alone, however, was insufficient. A restriction on the amount of fractional silver coinage had to be imposed if the result was not to be an unintended degree of encouragement of the minting of silver in the form of the fractional pieces. It was consequently provided that silver bullion was no longer to be coined at the mints on private account in denominations less than a dollar. Instead, the director of the mint would purchase only such quantities of silver for fractional coins as might be required by the necessities of trade. To restrict their use to small transactions the legal tender power of fractional silver coins was confined to transactions not exceeding \$5. To guard further against overissue, later statutes contained provisions designed to mop up a possible excess of the fractional currency. The Treasury was required in 1879³ to exchange currency of the larger denominations for the smaller when presented in sums of \$20 or multiples thereof.

There is of course no inherent reason why after 1853 the denomination of \$1 should be the dividing line between currency subject to treatment under fractional currency principles and that not thus subject. In a gold standard regime all denomina-

¹ The silver dollar, consisting of $371\frac{1}{4}$ grains of fine silver, is referred to as the "standard" silver dollar. After 1837 coins contained 23.22 grains of fine gold per dollar.

² Act of Feb. 21, 1853. "An act amendatory of existing laws relative to the half dollar, dime, and half dime."

³ Act of June 9, 1879. "An Act to provide for the exchange of subsidiary coins for lawful money of the United States under certain circumstances . . ."

tions of silver should be provided under the principle of restricting the amount issued to the needs of trade. The same observation holds for any other form of nongold currency. This is one of the reasons why the Bland-Allison Act of 1890 and the Sherman Act of 1890 were so illogical.

Subsidiary silver and minor coins in circulation amounted in March, 1941, to about 600 million dollars. In total outstanding volume this currency ranks next below the silver dollar and the silver certificate.

UNITED STATES NOTES—A STATIONARY ELEMENT

It is hard to discuss these Civil War issues, popularly known as greenbacks, without introducing more detail than is important for our purposes. Restricted treatment, moreover, is difficult because so many writers have provided elaborate detail to defend a condemnatory attitude in respect to the justification for their issuance without either outlining the correct principles of war finance or providing an analysis of the ability of the United States government in 1862 to observe these principles.

Suffice it to say, then, that these issues were authorized reluctantly by Congress at a time of unusual financial strain. The framers of the Constitution, in denying the states the power to "emit bills of credit" and in failing to bestow such powers specifically upon Congress, were evidently impressed by the fate of John Law's currency, in France, in 1718, and our own continental notes. Yet our Civil War administration had the task of meeting its bills. The country had made little preparation to meet the financial strain of a war which, on its sudden outbreak, deprived the Federal government of much of its accumulated military and naval equipment and required overnight feverish arming efforts. Previous exigencies had not resulted in the provision of highly elastic taxes or the machinery to administer them. Neither had the precedents been developed for an extensive distribution of bonds among the people.

The term "greenbacks" properly applies to those noninterest-bearing obligations which, with certain limitations, were given power to discharge private and public debts. Attempts to increase their circulability took the form of issuing them as promises of the government to pay (other forms of currency) at

an unannounced date; of making them exchangeable at the option of the holder into interest-bearing obligations, in the case of the first two issues; and, as indicated above, of vesting them with legal tender powers. Despite these attributes, the notes began a course of depreciation in terms of gold from the date of issuance. The low of their depreciation was reached July 1, 1864, when \$100 of greenbacks would exchange for only \$35 of gold.

After the cessation of hostilities, a major concern of the Treasury was how best to eliminate this depreciation. The conservatives argued for a policy of regular contraction of the outstanding volume, the radicals for their increased issuance in time of peace as a means of checking declining tendencies of commodity prices. Those whom we might term "middle roaders" argued that it would be wisest merely to avoid further issues so that the outstanding volume, as the country's financial resources grew, would gradually become a less important part of the circulating media. Among these diverse policies Congress wavered. Eventually, however, Congress resolved against peacetime issues and the Specie Resumption Act of 1875 provided for their redemption in gold as of Jan. 1, 1879. Fortunately, economic events enabled the Treasury to assemble sufficient gold to promise this redemption, so that some weeks prior to 1879 the depreciation of the greenbacks ceased. Subsequent statutes, including the Gold Standard Act of 1900, provided for a strengthening of the gold reserves behind the greenbacks. They go down in history as one of the few currencies which after a depreciation were eventually restored to their former value.¹ Since 1933, however, as mentioned above, the gold conversion feature has been withdrawn.

The total amount of greenbacks authorized during the course of hostilities was 450 million dollars. At the time of resumption of gold payments in 1879 the amount outstanding was 346 million dollars. Since that time there has been effected no change in the greenback volume. They come into and go out of circulation as they pass through the reserve banks and the Treasury. This fact applies also to other forms of currency. The official definition of "money" in circulation² is the total amount in existence less that possessed by reserve banks or the Treasury.

¹ In terms of the "standard" metal.

² This is not our definition. See above, p. 7.

**CURRENCY IN PROCESS OF RETIREMENT—THE NATIONAL
BANK NOTE, THE FEDERAL RESERVE BANK NOTE,
AND THE TREASURY NOTE OF 1890**

As noted above, the final principle employed in this country to regulate bank notes was to concentrate the issue function in the Federal reserve banks. The Federal reserve banks were not organized until 1914, however, so that previously other means had to be relied upon to control our note currency. With the national banking system authorized by Congress in 1863, and with the enactment of a prohibitory tax against state bank notes in 1865,¹ main reliance against overissuance was the requirement that they be secured by the pledge of United States government stocks with the Treasury department. This collateral provision was important principally as a means of restricting the amount of such issues. In a gold standard period it was essential that the supply of nongold elements in the currency system be restricted by some device.

In 1913 the framers of the Federal Reserve Act might have provided for the immediate retirement of the national bank notes. It was feared, however, that the new form of currency, the Federal reserve note, might not be issued in sufficient quantity to make up for the shortage that would be created by the immediate retirement of the national bank notes.² It was provided accordingly in the Act of 1913 that the reserve banks might issue Federal reserve bank notes under prescribed conditions as national banks should lose power to keep their notes in circulation as they might sell the bonds securing these notes to the reserve banks. The collateral behind the reserve bank notes, like that behind the national bank note, would be Treasury obligations. Federal reserve bank notes, however, would be an issue of the reserve banks instead of the national banks.

As it happened, however, no considerable volume of national bank notes was retired prior to 1935, and so two special historical episodes proved to be principally responsible for the use that was later found for the reserve bank note. Under the Pittman Act of

¹ See Act of Mar. 3, 1865.

² Member banks could obtain the new notes by creating, presumably through rediscounting, a sufficient reserve balance against which notes shipped to them could be charged. Despite a currency shortage, however,

April, 1918, provision was made for the retirement from circulation of silver certificates so that the silver backing could be sold the British government, largely for use in East India, and Federal reserve bank notes were issued in place of the retired silver certificates. Later on silver was repurchased by the United States Treasury, the silver certificates reissued, and the Federal reserve bank notes issued on account of this statute retired. These operations were completed by the middle of 1923.

Ten years later, during the banking closures of early March, 1933, it was feared that with the reopening of the banks there might be a large demand for cash by frightened depositors. To give assurance such currency would be available after the reopening of the banks, the Emergency Banking Act of 1933 provided for the creation of a special kind of Federal reserve bank note. This note could be issued by the reserve banks with any sound asset, not government securities only, as collateral. Like other federal reserve bank notes, it required no gold reserve. Such notes as were issued for this purpose were shortly retired.

At the present time the remaining Federal reserve bank notes in circulation are in process of physical retirement. As they reach the Federal reserve banks they are dispatched to the Treasury. Sufficient funds have been provided the Treasury by the reserve banks to retire all outstanding notes, so that the same effects have been produced as if the retirement procedure had been completed.

Similar arrangements have been made for the retirement of the national bank notes, and the reasons for and terms of this action will later be discussed.¹

It has been mentioned above that the Treasury notes of 1890 were issued in payment for silver bullion purchased under the terms of the Sherman Act. Such purchases were terminated by statute in November, 1893. Legal tender treasury notes were issued in payment for silver bullion purchased, but these notes were redeemable in coin at the Treasury. To redeem these notes the Treasury might coin the bullion purchased into standard silver dollars. The Treasury notes outstanding, however, could

the member banks might be unable or unwilling to rediscount in the necessary amount. With little discounted paper in their portfolios the reserve banks might also be short in the collateral required against Federal reserve note issues.

¹ See Appendix, Chap. XXXII, Note I.

not exceed the difference between the cost of the silver bullion purchased and the silver dollars coined from the bullion. But such coinage and the consequent reduction of the Treasury notes in circulation were accelerated by the War Revenue Act of June 13, 1898, which directed the Secretary of the Treasury to coin the bullion into standard silver dollars at a rate not less than \$1,500,-000 per month. The Gold Standard Act of 1900 provided that, as the bullion was thus coined, silver certificates should be issued in place of the Treasury notes as fast as the latter should come into the possession of the government. This act also encouraged the coinage of subsidiary silver. Treasury notes of 1890 now outstanding amount to only 1 million dollars.

RECAPITULATION

The elements, dollars, in our currency system may thus be classified as follows:

First, bank deposit currency. This is the principal medium employed in the discharge of pecuniary debts. This currency comes into and goes out of being as bank assets increase or decrease. It is virtually true to say that banks "coin" individual and public obligations into recognized purchasing power.

Second, Federal reserve notes. These are issued by the reserve banks against approved collateral. Member banks obtain this currency from the reserve banks by drawing against their reserve balances. Factors determining the amount of this currency in circulation include the policy of the reserve banks in providing member banks with credits that can be thus drawn against, the ability of the reserve banks to provide the required collateral against these notes, and the needs of trade for more or less circulating currency.

Third, currencies the outstanding volume of which depends on Treasury policies and Treasury discretion, buttressed by statutory law. Here we have standard silver dollars, silver certificates, subsidiary silver, and minor coin. Provision for the fractional currency, however, is largely automatic. The stipulated objective is to supply only that amount which is required to meet the convenience and necessity of trade.

Fourth, United States notes. The supply of these is fixed and is tending to become relatively less important in the currency volume.

Fifth, currencies for whose retirement arrangements have been completed. This list includes national bank notes, reserve bank notes, treasury notes of 1890, gold coin, and gold certificates.

THE AMOUNT OF CURRENCY, BY CLASSES

The measurement of the dollar volume of our bank deposit currency is a matter of considerable difficulty. If the purpose, for instance, is to determine the amount of currency available for the use of depositors, figures of bank deposits should not include deposits of banks in other banks. "Cash items in process of collection" should also be subtracted from gross deposits, it would seem, because the deposit credit that has been given the depositor will be offset by charges against another account and at another bank as soon as the collection process is completed. Outstanding certified checks and letters of credit should be added insofar as banks have deducted from the accounts of their depositors at the time of issuance. Finally, there is some controversy regarding the type of deposits that should be considered as circulating currency,¹ as well as of the definition of a bank whose deposits are to be included under the category of instruments of payment.

The figures of the following table indicate the total deposits of all banks reporting to the Comptroller of the Currency, excluding interbank deposits, since 1929:²

DEPOSITS, EXCLUSIVE OF INTERBANK DEPOSITS	
Date	All Banks, in Millions of Dollars
June 29, 1929	53,852
June 30, 1933	37,998
June 30, 1936	51,335
June 30, 1939	55,992
Mar. 26, 1940	59,017

How does the amount of deposit currency thus reported compare with the volume of nondeposit currency in circulation? At the close of March, 1940, the following figures show the amount of the various classes of nondeposit currency in the country outside the Treasury and the Federal reserve banks:

¹ The principal question here has to do with the classification of time and savings deposits. See below, pp. 146-147.

² Compare *Federal Reserve Bulletin*, August, 1940, p. 793.

AMOUNT OF NONDEPOSIT CURRENCY OUTSIDE THE TREASURY AND THE
FEDERAL RESERVE BANKS

Kind of Currency	Amount, in Millions of Dollars,	
	Mar. 31, 1940	
Gold certificates.....		68
Silver dollars.....		45
Silver certificates.....	1,508	
Treasury notes of 1890.....		1
Subsidiary silver.....		375
Minor coin.....		164
United States Notes.....		260
Federal reserve notes.....	4,896	
Federal reserve bank notes.....		23
National bank notes.....		170
Total.....		7,511

Some of this latter currency, however, was held in the vaults of banks of deposit and should be regarded, therefore, as a part of the reserve (the part not legally required of most banks) to ensure the circulability of their deposit currency. The amount of such currency held by all banks on June 30, 1940, was slightly more than 1000 million dollars. If this latter sum be subtracted from the 7511 million dollars reported above we have around 6500 million dollars of nondeposit currency to contrast with the 59,000 million dollars of deposits in all banks. On the basis of these figures, deposit currency represents 90 per cent of our monetary circulation. This is one of the reasons why, in this treatment, we have minimized discussion of the historical episodes which have been responsible for the origin of our nondeposit currency and which have received such elaborate treatment in the majority of texts. Bank deposits are our principal debt-discharging medium.

It was pointed out above, however, that deposits in some banks are not utilized very intensively as media of payment. Before such use they may be converted into deposits at banks better equipped to supply transfer services. The Federal Reserve Board computation of the total deposits of these "commercial banks" is \$48,582,000,000.¹ This currency permitted a tremendous volume of money transfers to be effected. In 1940 debits

¹ This figure was adjusted to exclude interbank deposits and collection items and was an average of figures for Dec. 30, 1939, June 29, and Dec. 31, 1940.

(charges, largely on account of checks) against these deposits totaled the stupendous figure of \$627,000,000,000. Again, the necessity of emphasizing the conditions under which deposit currency comes into and goes out of being is indicated.

REDEMPTION CURRENCY

It has been pointed out that redemption currency is significant in that ability to obtain it determines the power of a bank to give its promises to pay the quality of circulability. Those familiar with the Federal Reserve System will understand, however, that an individual bank's power to grant deposit credits depends largely upon its ability to obtain such currency for future need, regardless of whether the currency that will be supplied is at the time physically in existence. The principal factor bearing on the ability of a member bank to provide deposits is the amount of its balance at a reserve bank. It is against its deposit at a reserve bank that currency shipped to the member bank will be debited. It is a responsibility of the reserve banks to be able to supply this currency on demand. To manufacture new currency in the form of Federal reserve notes will draw down the reserves of the reserve banks less rapidly than if other forms of currency are supplied member banks.¹ In the final analysis the expansibility of member bank deposit currency depends on the ability of the reserve banks to create redemption currency. No good purpose would be served, therefore, by supplying figures of the amount of redemption currency in existence at a particular point of time.

NEED BANK DEPOSITS BE REDEEMABLE IN OTHER MEDIA?

Under the present *modus operandi* the ability of a banking institution to provide deposit currency is limited by its obligation to provide the forms of currency to which Congress has given legal recognition. Will this system ever be altered?

It is difficult to conceive of bank deposits in any other manner than as obligations of banks to provide other currency. Still we must recognize the fact that in the field of nondeposit currency evolution has proceeded along precisely such lines. The gold standard has been abandoned, and the supply of such a currency

¹ Because Federal reserve notes require a minimum gold cover of 40 per cent.

as the silver certificate no longer is restricted by the ability of a currency authority to provide gold. Why could not the same development occur in the field of deposit currency? If such a development should obtain we would find the amount of credit a particular bank is permitted to grant determined arbitrarily by a governmental agency, and it is conceivable that the government might even go further and specify the industries and the particular enterprises entitled to receive this credit.

We shall not speculate here on the probability of any such future development. It should be noted, however, that the substitution of governmental discretion for the present system in the provision of bank credit would probably complete the process of the destruction of our enterprise economy. The power to direct credit is the power to determine which industries shall live and which shall go out of being. It is one thing for Congress to specify the obligations in terms of which a bank must redeem its own deposit obligations. It would be a totally different thing for the government to supervise the allotment of this currency.

THE SIGNIFICANCE OF THE LEGAL TENDER POWER

It is not intended to imply that a government has unrestricted power under all circumstances to create acceptability among its people for a particular currency merely by endowing it with the legal tender power. It has been noted¹ that the people on occasion have refused to deal in an otherwise discredited currency, just as in other situations they have accepted the doubtful currency only at a discount. Conversely, episodes may be cited in which the withdrawal of the legal tender quality did not destroy circulability and acceptability.

It will be noted, however, in the evolution of the present American currency system, that the elements made legal tender by the acts of 1933 had already achieved acceptability. After undertaking arrangements to withdraw from circulation our "standard" currency, gold, Congress had little to do except to recognize the facts of usage as they had previously evolved. Perhaps our present system could not have been set up all at once and under completely different circumstances. Perhaps in the beginning a nonredeemable currency would never have been acceptable. But the legal tender power has potency when it

¹ See Appendix, Chap. I, Note II.

recognizes usage, particularly if the only other kind of currency that might be preferred to it is rendered unavailable.

REFERENCES

- DAVIS R. DEWEY, *Financial History of the United States*.
JOSEPH FRENCH JOHNSON, *Money and Currency*, Chaps. XI-XII.
J. L. LAUGHLIN, *The History of Bimetallism in the United States*.
ALEXANDER DANA NOYES, *Forty Years of American Finance*.
FRANCIS A. WALKER, *International Bimetallism*.

CHAPTER III

HOW BANKS PROVIDE THE PAYMENT MEDIA

ASSUMPTION THAT BANK DEPOSITS CONSTITUTE THE SOLE MEDIA OF PAYMENT

In the last chapter it was pointed out that bank deposits comprise the greater part of this country's debt-paying media. Our next task, therefore, would seem to be that of investigating how this deposit currency comes into and goes out of being.

To simplify this analysis we shall first assume that there is only one bank in the whole country and that this country has no financial transactions with other countries. This one Bank may have numerous branches (contact points with the public) but the system dominated by this Bank encounters no competition from other banks. The deposits of this Bank will also be considered to be entirely of the demand variety, that is, payable without notice of intention to withdraw. It will finally be assumed that these demand deposits constitute the country's only debt-paying medium. In other words, small transactions and the inability of various persons to write checks will not be taken into account.

WHY BANK DEPOSITS WOULD BE REQUIRED. THE NATURE OF THE BUSINESS PERFORMED BY THE BANK

Under these conditions the public's holdings of the deposit medium would depend upon just two factors, the demands of business for the particular medium of payment the Bank can supply and the willingness of the Bank to supply this medium. Business enterprisers, as well perhaps as consumers, would require a more acceptable medium than their own obligations to meet debts to wage earners, landlords, and providers of raw material or finished goods. The need for the Bank's deposits would depend upon a number of considerations. The most important of these would be the mere fact that the Bank's main mission would be to conduct itself in such a way as to give its obligations wide acceptability. The retailer, the wholesaler, the manufac-

turer, and the producer have other responsibilities. The principal responsibility of the manufacturer is to exercise his technical skill in fabricating goods; of the distributor to provide his customers with a well-ordered array of goods. The Bank is assumed to have developed in response to the need for specialization.

Transactions between the Bank and its business customers would thus be largely a matter of swapping obligations. The customer would tender his promise to pay of inferior circulability and receive in return the superior obligation of the Bank. To be able to engage in such work the Bank would require revenue out of which to meet its operating expenses.¹ Interest payments to the Bank, the amount of which would vary with the degree of risk involved, the amount of the Bank's deposits that are provided, and the time elapsing before payment, would be the principal source from which administrative expenses and dividend distributions of earnings would be met.

These interest payments may be conceived to be like premiums paid a title guarantee company. The Bank could achieve the main purpose of its existence by another method than exacting interest, that of guaranteeing the payability of the customer's obligation. Commissions charged for rendering this service would be the revenue source out of which operating expenses and losses in principal would have to be defrayed. Many objections to this method of operating will be at once apparent. But to draw an analogy between the work of banks and that of insurers of anything seems to the writer to make clear the real function of the Bank.

In what medium would customers meet their debts to the Bank? According to our assumption this medium would have to be the obligations of the Bank itself. We have assumed the absence of any other means of payment. The successful business manager would be the one who regularly acquires from customers more bank deposits than he transfers to others. The losing venture, on the other hand, would generally find itself falling behind in its Bank balance. When the ability of a Bank borrower to obtain sufficient quantities of such balances is threatened,

¹ Under the conditions stipulated, operating expenses would not include the cost of maintaining a "reserve." No reserve is required if the Bank's obligation is acceptable even though it be not convertible into another medium.

the Bank might be forced to take over his property and administer it in such a way as to obtain the maximum revenue.

THE NECESSITY OF RESTRICTING THE OPERATIONS OF THE BANK

It would be interesting to speculate on the conditions according to which business enterprises as a whole could operate gainfully. Probably it would be found necessary for there to be a regular expansion in the outstanding volume of the Bank's deposits. But into this question we cannot here go. Suffice it to say that the existence of such a Bank would enable the community (here, the whole nation) to escape the disadvantages of barter. The Bank in essence would be an agency that clears (offsets credits and debits) the accounts of its customers. There would be a recognized medium in terms of which monetary debts could be discharged.

How far could this Bank go in the business of swapping promises-to-pay? Since it is assumed here that the public does not employ pocket or till cash there would be no obligation of the Bank to redeem its obligations in any other medium. There is no other exchange medium in which such promises could be redeemed. Bank deposits were assumed to be the sole currency. The test of solvency for every customer would thus be his ability to acquire a sufficient amount of the Bank's own obligations. If the Bank should be niggardly in providing its own promises-to-pay, enterprise would be obliged to mop up Bank deposits held by the public. But to attract increasing amounts of Bank deposits from the public prices might have to be cut, and, if such cuts were general, we would experience what is termed "price deflation." Liberality on the part of the Bank in providing credit accommodation, on the other hand, would encourage sellers of goods to increase prices.

Since, however, continued increases in the volume of Bank obligations would help to maintain general business solvency, and consequently the solvency of the Bank itself, it is quite likely that the Bank would generally veer toward a policy of liberality in providing its own promises-to-pay. Certainly this would be true if its managing board should be made up largely of business representatives. If public authority should dominate in the determination of the Bank's policy, the same liberal methods would

again be indicated. Under the assumptions given, price inflation would be the rule unless perhaps, as economists so often maintain, the final consequences of inflation would be adjudged so dangerous that there was imposed upon the management the necessity of pursuing conservative policies.

THE RESTRICTION OF THE BANK'S DEPOSITS ACCORDING TO ITS ABILITY TO REDEEM IN ANOTHER MEDIUM

Should some other means than the discretion of management be relied upon to provide a check against excessive expansion in the outstanding volume of Bank deposit currency? Perhaps so, perhaps not. But contrary to our assumption, which we shall now have to abandon, that deposit obligations are the only currency in existence, monetary evolution has led to the provision of a basic type of currency. This is currency for the issuance of which the government is usually responsible,¹ and which is acceptable regardless of the moral or financial reputation of the holder. What would be more logical than to require that the Bank be restricted in the creation of its deposit obligations to amounts that it can guarantee to redeem in this superior kind of currency? The penalty the Bank would then meet if it should provide an excessive amount of its deposits would be its inability to redeem them in this legally or conventionally recognized currency. The Bank might now become insolvent even though the solvency record of its customers were high. The new system, in other words, subjects the Bank to the hazards of two types of insolvency. First, there is the risk that some of the Bank's debtors may become insolvent. Second, the Bank itself may be unable to redeem its deposits in currency of ultimate acceptability.

Two general methods of insuring the solvency of the Bank might be employed. The first would be to require the Bank to maintain a dollar of redemption currency against each dollar of deposit credit. If this were done the Bank would operate under the so-called 100 per cent reserve plan² and could never go broke through a failure to find sufficient currency with which to redeem

¹ Banks may have note issue powers, so it might seem that the issuance of bearer currency is not entirely a responsibility of governments. As has been indicated above, however, governments generally impose such severe restrictions on the issuance of bank notes that they might as well be regarded as government obligations.

² See Chap. XXXVII.

its deposits. If this plan were followed the Bank might find it necessary to depend for its revenue on some other source than interest—perhaps service charges. Its deposits could be increased only through an expansion in its holdings of redemption currency. But 100 per cent reserve banking has not evolved in this country. Instead, the system that has developed has been—and this is the second method—to require holdings of redemption currency to be only a certain fraction of the Bank's liabilities. Deposits, in other words, are offset principally by "noncash" assets. Under the existing system an expanded demand on the part of the public for circulating currency may thus lead to bank insolvency. But it is usually assumed that such demands can be kept under control by providing that, at least in emergency occasions, the Bank can obtain some additional currency from other institutions in exchange for various assets which it holds.

Let us call the Bank's holdings of redemption currency, for no very good reason except that this is the prevailing parlance, the Bank's Reserve. Different provisions will in fact be incorporated in particular banking statutes for the purpose of defining reserve with sufficient exactness to make it administrable. Here we need employ only the general concept of reserve, the most liquid part of the Bank's assets, which is, of course, its holdings of currency suitable for redeeming its deposits.

THE MAXIMUM RATIO OF DEPOSITS TO RESERVES

In contrast then with the 100 per cent reserve plan which has not been adopted in this country we operate under the fractional reserve principle. Let us assume that the minimum reserve required is 20 per cent.¹ Under this condition, how far could the Bank go in providing the public with demand deposit currency?

The answer is of course five times the amount of the Bank's reserve. If deposits should reach the limit set by this reserve, the only way, save by varying the required ratio, for the Bank to expand its deposit obligations would be to provide it with more redemption currency. A loss of reserve currency, moreover, would require it to reduce its deposits to a fivefold extent.

¹ At the present time requirements against demand deposits for the three classes of member banks of the Federal Reserve System are 26, 20, and 14 per cent. The average of these percentages is 20.

ASSUMPTION OF A SINGLE BANK ABANDONED

To get closer to an accurate description of the workings of the American banking system of today, let us next assume that we increase the number of banks. Instead of one Bank we are to have several thousand independently owned and managed banking institutions. Let the reader who dislikes the easy juggling of assumptions suppose that the branches of the previous Bank should break away from the parent and that each should become an independent institution.

In what ratio now can a surplus reserve of a particular bank¹ permit expansion in the outstanding volume of deposit obligations? Since this question is perplexing to the beginner, let us anticipate our answer. The limit of deposit expansion will still be five-fold the reserve holdings of the entire banking system. The individual bank that experienced the increase in reserve, however, will be unlikely to expand its deposits at any given point of time by an amount much in excess of its surplus reserve.

How does it come about that this expansion of deposits is not likely to be confined to an individual bank but tends rather to develop throughout the entire system? The answer is to be found in the circumstance that the first bank to gain reserves has to be prepared for the fact that checks may be drawn against any deposits it provides, and these checks will tend to be deposited in other banks. When thus deposited these other banks will collect (through the clearing system) reserve currency for these checks. If the bank that first experienced the increase in reserve had immediately expanded its deposits five times the amount of its reserve increment it would be obliged perhaps to meet these subsequent demands by selling assets, or by adopting some other possibly unwelcome procedure. Through experience, rather more than by close analysis, bankers have learned it is dangerous to increase deposits by an amount exceeding their surplus reserves. Regularly in loan committee discussions the question asked of the bank officer responsible for watching the bank's reserve position will be, "How much extra reserve have we?" If this surplus is \$100,000, deposits may be increased by an identical figure but not to any such sum as five times this amount.

¹ To distinguish from a single Bank, bank will no longer be capped.

DISTINCTION BETWEEN THE EFFECT OF A CHANGED RESERVE ON A SINGLE BANK AND ON THE BANKING SYSTEM

If then individual banks tend to limit their deposit expansion to amounts not exceeding current holdings of excess reserves, how is it that deposit expansion throughout the whole network of banks may ultimately approach the five-fold ratio? The answer lies in the fact that the deposit of checks against the first bank enables the depository institution to collect reserves from it, that the resulting increase in reserve in excess of that required by its deposits enables the second bank to provide new deposits, which deposits when withdrawn to a third bank increase its reserves against which it may enlarge deposits, and so on from bank to bank until the fivefold system expansion may ultimately be reached.

Let us try to spell all this out. Bank *A* has gained reserves, we shall assume, by the amount of \$100,000. This gain in reserves resulted perhaps from the deposit of redemption type of currency by a depositor of the bank. Against this increase of \$100,000 the bank must maintain a reserve of \$20,000. It now has an excess reserve (assuming its reserve position was just even to begin with) of \$80,000. It can now grant \$80,000 new deposits in a loan to a customer. Assume this customer shortly draws checks against this account and pays to depositors who keep their accounts in Bank *B*. (If this checking is not done immediately the process of reaching the limit of loan expansion is merely delayed.) Bank *B* collects \$80,000 of *A*'s reserve in the clearing settlements. The following successive entries would summarize what has happened to Bank *A*:

BANK <i>A</i>			
Assets		Liabilities	
Reserves.....	\$100,000	Deposits.....	\$100,000
Loans.....	\$80,000	Deposits.....	\$20,000
Deposits.....	\$20,000	Reserves.....	\$80,000

With these changes Bank *A* has increased its reserves \$20,000 and loans \$80,000. Deposits have increased on the liability side by the sum of these amounts or \$100,000. Note please that for

this bank the ratio of increased deposits to increased reserves is as 5 to 1.

Now let us pick up operations of Bank *B*. We start with the deposit with it of checks of \$80,000 against *A*. With the collection of these checks its reserve is increased by a similar amount. It (Bank *B*) now has surplus reserves of \$64,000 (\$80,000 - 20 per cent of 80,000). It therefore increases its loans and deposits by \$64,000. Checks for this sum are immediately drawn against Bank *B* and deposited with Bank *C*. The following entries would summarize changes in the condition of

BANK *B*

Assets		Liabilities	
Reserves.....	\$80,000	Deposits.....	\$80,000
Loans.....	\$64,000	Deposits.....	\$64,000
Deposits.....	\$64,000	Reserves.....	\$64,000

Bank *B*'s reserves are now \$16,000 larger, its loans \$64,000 larger, and its deposits \$80,000 larger. Its reserve increment is thus one-fifth its increased deposits.

For Bank *C* the following changes have occurred:

BANK *C*

Assets		Liabilities	
Reserves.....	\$64,000	Deposits.....	\$64,000
Loans.....	\$51,200	Deposits.....	\$51,200
Deposits.....	\$51,200	Reserves.....	\$51,200

So, Bank *C*'s reserves are up \$12,800, its loans are up \$51,200, and its deposits increase by \$64,000.

It is too tedious to proceed further as checks against *C* are deposited with *D*, and as checks are drawn against *D* and deposited with *E*. But it should be clear that as business transactions take place and check payments are made the initial \$100,000 of reserve increment gets distributed among many banks. The fivefold expansion of reserve holdings will tend to develop throughout the whole system even though it is the policy of each individual bank to lend at any one time only an amount equal to its surplus reserve.

The same argument has been summarized by a correspondent of the Board of Governors of the Federal Reserve System¹ who assumes a 15 per cent, instead of a 20 per cent, reserve requirement. He also assumes that the initial deposit and reserve increment was \$15,000,000.

Banks	Additional deposits received (100 %)	Additional loans made (85 %)	Additional reserves retained (15 %)
1st	\$15,000,000	\$12,750,000	\$2,250,000
2d	12,750,000	10,837,500	1,912,500
3d	10,837,500	9,211,875	1,625,625
4th	9,211,875	7,830,094	1,381,781
5th	7,830,094	6,655,580	1,174,514
6th	6,655,580	5,657,243	998,337
7th	5,657,243	4,808,657	848,586
8th	4,808,657	4,087,358	721,299
9th	4,087,358	3,474,254	613,104
10th	3,474,254	2,953,116	521,138
All other banks	19,687,439	16,734,323	2,953,116
Total	\$100,000,000	\$85,000,000	\$15,000,000

The "spilling-over" process could be followed to the limit of the student's patience and the expansion relegated in the table to "all other banks" correspondingly reduced.

In assuming a large number of banks we thus arrive at the same result as if we had only one bank. The limit of deposit expansion is determined for the banking system as a whole by the size of the bank's reserves and by the effective reserve ratio.

SOME BANKS' INCREASES IN RESERVE MAY BE OFFSET BY OTHER BANKS' RESERVE DECREASES

Some operations that increase the reserves of one bank diminish the reserves of other banks in similar degree. This occurs daily as checks drawn against some banks are deposited with others. If all banks concerned operate on the basis of holding no excess reserves and if all maintain the same reserve ratio and total reserves are unchanged the expansion induced in some banks

¹ "Sources of a Bank's Lending Power," *Federal Reserve Bulletin*, February, 1940, p. 100.

would then be offset by the contraction required of others. On the other hand, some operations may increase the reserves of particular banks without diminishing those of others. This may occur, for instance, when a bank has gold consigned to it by a foreign depositor,¹ when gold mined in the country is deposited, when circulating currency is deposited by a bank's customers, when the bank borrows from the central bank, or when deposits are converted into capital stock. In such cases deposit expansion throughout the banking system may be induced.

CONTROVERSIES RESULTING FROM THE CONFUSION OF A SINGLE BANK WITH THE ENTIRE SYSTEM

What are some of the applications of the principle that has just been expounded? A few may be mentioned that have come within the writer's experience. In a discussion about a Federal reserve problem many years ago a student challenged a statement about the ability of a Federal reserve bank to employ a rate increase to control member bank applications for reserve funds by pointing out the expansive effects of an increase in reserves. The student argued that the borrowing bank could afford to pay the reserve bank a rate several times the bank's marginal loan rate (perhaps 3 per cent, then). The borrowing bank, he contended, would be able to increase its own deposits (and hence, loans) several times the increased reserve. This same argument was common about 20 years ago. The error in the statement consisted in the assumption that an individual bank could afford to pay the entire charge of a borrowing that might result largely in an increase in the lending power of other banks. Individual banks cannot afford to incur charges for the benefit of rival institutions.

Back in 1931 the author wrote an article for the *New York Herald Tribune*² proposing to cancel a portion of member bank stock in the reserve banks. The author pointed out that the cancellation of \$167,000,000 of their capital stock would result in crediting their reserve accounts to an equal amount, and that this reserve increment might then permit deposit expansion to perhaps \$1,670,000,000. An operating banker immediately pointed out

¹ We have assumed, however, no foreign relationships.

² "Cancel Member Holdings in Reserve Capital," *New York Herald Tribune*, Oct. 25, 1931, Section V, pp. 1-2.

that an individual bank could not expand its deposits immediately by any such amount as 10 times its reserve increment. He was of course correct. But the author was talking about "system" expansion. The complaining correspondent was concerned only with the effect on a particular bank.

On some occasions we are obliged to give regard to the effects of an increase in reserves upon a single bank. But other occasions arise when the task is to think of system effects. The economist's analytical work is frequently of the latter type.

Now that allowance has been made for "redemption" currency as a means of testing bank solvency and therefore as a device for restricting the outstanding volume of the country's principal debt-paying medium, it will next be necessary to inquire into the factors restricting the creation of redemption currency. For the present the impression has been given that the only effective control is the discretion of the government. But it still must be remembered that we have not yet postulated any financial relationships with foreign nations or their inhabitants. It is possible that international considerations will prove to be powerful factors in the determination of domestic currency policy.

REFERENCES

Principal credit for clearing up the difficult issues involved belongs perhaps to:

JOHN MAYNARD KEYNES, *A Treatise on Money*, Vol. II, Chap. 25.

CHESTER A. PHILLIPS, *Bank Credit*, Part I.

See also:

ARTHUR W. MARGET, *The Theory of Prices*, Vol. I, Chap. 7.

LOUIS A. RUFENER, *Money and Banking in the United States*, Chap. XI.

CHAPTER IV

LIMITATIONS UPON THE CREATION OF REDEMPTION CURRENCY

BIAS FOR A "COMMODITY" CURRENCY

Bank "investment" operations have not yet been studied, and it has been assumed, therefore, that our principal medium of payment, bank deposits, arises from loan operations. The intensity of the loan demand is accordingly to be considered the first limitation upon the amount of deposit currency banks will provide. But the intensity of the loan demand depends in turn not only on the physical volume of business transactions but also on the height of prices. Other things equal, the higher the level of prices the greater will be the amount of deposit currency business managers will be required to obtain. To avoid an inherent tendency toward price inflation some mechanistic restriction upon banks' powers to provide deposit credits is, therefore, required. What we have now to consider is the adequacy of the requirement that banks keep in a position to redeem their deposits in legally or conventionally recognized currency.

So powerful has been the inflationary sentiment in our country—not only in its early developmental stage, but also after our economy reached "maturity"—that the student might well be expected to surmise that redemption requirements constitute no adequate safeguard against undue deposit expansion. Surely there is nothing to prevent either a government itself or its currency-issuing agent—say the central bank—from providing whatever amount of redemption currency is desired. But such a pessimistic conclusion—pessimistic from the point of view of ability to preserve the value of the monetary unit—leaves out of account two considerations. We have to reckon first with the fact that currency systems have evolved in such a way as in popular opinion to link soundness of a currency to its embodiment of, or exchangeability for, a valuable commodity. Insofar as a

currency consists of this commodity its supply cannot be expanded beyond the point set by the production costs involved. A second limiting set of factors may perhaps originate in foreign relationships. Under certain conditions an excess supply of currency may flow abroad. So far as this latter factor is concerned, it will be recalled that we have assumed our country does not have transactions with any other. This assumption will shortly have to be removed. But let us consider first the developed prejudice for a "commodity" currency.

Researches of anthropologists have made it clear that "money" (currency) was not evolved as a consequence of man's deliberate intent to do away with the disadvantages of barter. Man's most important institutions have not originated in that way. In particular communities certain commodities seem gradually to have evolved to a status according to which they finally became prized rather for their qualities of "general exchangeability" than for their capacities directly to satisfy man's wants. Carlile's¹ ornament theory of the origin of "money" is of this description. Among early peoples, characterized by lack of any foresight or vivid ideas of the future, food and clothing wants might soon be satisfied by the successful hunter or fisher. But man's desire for articles of adornment, for means of displaying his personal prowess, would not be thus restricted. Possession of a few ornaments would merely place him in the group. But to be able to wear upon his person the most rare goods would arouse the envy of his fellow creatures and give him the stamp of success. Ornamental and prowess goods rather than the necessities of life thus tended to become the objects of unlimited demand.

Among many early societies gold and silver ornaments advanced at a comparatively early period to the status of unlimitedly demanded goods. Not only the rarity of these goods but their physical qualities aid this process of differentiation from other goods. Their luster, freedom from tarnish, durability, easy divisibility, and ductility count. As these goods became more and more generally prized it was perhaps inevitable that the practice should develop of expressing the exchange values of other goods in terms of their gold or silver equivalents. In the lapse of time private individuals came to place stamps upon these ornaments to indicate the amount of their metallic content.

¹ W. W. Carlile, *The Evolution of Modern Money*.

Such stamped ornaments may thus be regarded as our first coins.

As time continued to lapse and civilization (order) to develop, tribal chiefs or community sovereigns took unto themselves the privilege of thus stamping these metals. Such practices could be defended on the rationalistic grounds of providing homogeneity of sizes and of producing a logical sequence of the different "denominations." More important than this, however, may have been the desire of sovereign bodies to profit from debasement. Coins acquired in fees, privileges, and other payments to the state might be clipped and the clipped portion seized for the benefit of the sovereign. Or the melting pot might be called into play and coins reissued which contained more of the baser metals. But detected debasement, it had next to be learned, interfered with acceptability.

Carlile has finally to concern himself with the long contest between gold and silver to become the world's preferred medium for the expression of pecuniary values. Into this contest we cannot here enter. Suffice it to say that the nineteenth century finally witnessed the triumph of gold and the general relegation of silver to the status of a metal principally employed for subsidiary coins.

OTHER EXPLANATIONS OF THE ORIGIN OF COMMODITY "MONEY"

Gold and silver have not been the sole commodities that have evolved to the status either of a specialized medium of payment or of a common denominator of exchange values. The list of commodities that, in one civilization or another, have been thus used is indeed broad. In Asia cubes of salt have been employed, among the American Indians strings of wampum beads, in early Virginia tobacco, in ancient Sparta coins struck from iron. Carlile's ornament theory would clearly be insufficient to explain the use of all these commodities as a "money" or "currency." But the anthropologist has other explanations which also do not require acceptance of a "rationality" thesis. Because, among pastoral peoples, cattle was the principal form of movable wealth, evidence of its ownership, such as a hide or piece of hide, might easily become a medium of payment or a measure of exchange value. Thus is derived "*pecunia*" from *pecus*, Latin for cattle.

In colonial Virginia, tobacco's emergence as a common medium of payment may be explainable in terms of Carl Bücher's¹ thesis that there is a tendency for important articles of foreign trade to become the preferred media of payment. In Virginia the colonists were poor, particularly in products of European manufacture. But Europe depended on the colonies for its tobacco. Possession of tobacco meant accordingly the ability to command in exchange the particular goods most wanted in trade.

The author is not an anthropologist and would be hopelessly at sea if required to provide a precise explanation of the origin of any particular medium of payment. But it is necessary to illustrate anthropological explanations of the origin of a specialized instrument of payment or of a common denominator of values in order to demonstrate the depth of the bias for a commodity currency. If a common payment medium had been deliberately devised merely to avoid the disadvantages of barter it might well have consisted of a relatively costless commodity. Rationalism far enough advanced to detect the advantages of a common medium of payment might be expected to have envisaged the social costs of employing valuable commodities for such a purpose. There is no doubt that the money institution has come to us as a result of processes that emphasize "money's" commodity origin.

FATE OF DELIBERATELY ADOPTED PAPER CURRENCIES

Ever since the services of a common medium have been generally understood, however, schemes have constantly been devised to escape from the expense of utilizing a costly commodity as well as to provide a medium the supply of which could be regulated with exactness. Paper currency is relatively inexpensive to provide and reduction in its outstanding supply need never occur—as sometimes happens with gold or silver coins—because the commodity of which it is composed would be more highly valued for commercial purposes. But deliberate experiments with paper currency have generally strengthened, instead of weakened, the bias for a commodity "money." Greater understanding of "the laws of money" might indeed have led to a different result. But as events have unfolded, paper currency not specifically

¹ Bücher stresses the tendency of import, rather than export, goods to become the exchange media. See Appendix, Chap. IV, Note I.

secured by a valuable commodity of a type to which evolution has given a monetary status has been under a cloud.

All this may be illustrated by reference to John Law's Mississippi Bubble Experiment,¹ early in the eighteenth century. Without going into the particulars of the currency adventures France undertook under the aegis of his theories, it may simply be remarked that Law conceived the precious metals to be too narrow a basis for a nation's currency. Surely, so it was argued, a currency issued upon the security of land in the new continent would be secure and permit the country to profit from a more abundant stock. But as prices of land, as well as of other commodities, rose in response to the fresh issues, the base was created for still further issues of currency. In the end the currency system collapsed through the threatened destruction of the value of the monetary unit. The essential reason for the failure of Law's plan was the inability of the currency managers to understand the relationship between changes in the supply of the currency medium and the value of the monetary unit. Such indeed must have been the consequence of putting Law's theories into operation in an era in which, among other intellectual obstacles, the crudest forms of measuring changes in the general level of prices had not yet been perfected.

USUAL CONDITIONS UNDER WHICH NONCOMMODITY CURRENCY HAS BEEN PROVIDED

Perhaps monetary science has now been perfected to a point at which completely managed paper currency systems might be practicable. But to grapple with this problem is not our present task. We are here confronted solely with the problem of explaining the limitations upon the issuance of redemption currency which we have inherited from experience. It is thus necessary to refer to the fact that earlier experiences with paper currency were largely confined to periods of stress, to situations in which budgetary requirements seemed to demand that governments provide themselves with more liberal supplies of a means of payment than they were able or willing to obtain by the ordinary processes of taxation or borrowing. Thus revolutionary France issued the assignats toward the close of the eighteenth century

¹ See J. L. Laughlin, *A New Exposition of Money, Credit and Prices*, Vol. II, pp. 67-98.

because it knew not what else to do. Similar budgetary difficulties explain the continental notes of the period of our own revolt, as well as the issuance of greenbacks during the Civil War.

Almost all such issues in the world's history continued their course of depreciation. In many instances, as notably in the case of certain European issues after the first World War, depreciation did not stop until complete loss of value was experienced. Execution, not partial devaluation, was their eventual fate. Complete depreciation meant, of course, practical repudiation of contracts calling for payment in the previously recognized means of payment.

The use of paper media in times of great emergency and the inevitable consequences thereof have thus provided the basis, even among peoples inherently of inflationary sentiment, for restricting the creation of noncommodity currency. Developed thus from the hard school of experience, sound currency doctrines have had no fragile origin.

INTERNATIONAL FACTORS ENCOURAGING PREFERENCE FOR A COMMODITY CURRENCY

The above conclusion is based purely on domestic considerations. But if we introduce international complications, the case for a commodity currency seems to be much strengthened. It was growing trade between nations and developing geographical division of labor that, more than anything else, made the nineteenth century the bright era in the world's economic history. The tendency during this period for the world's important trading nations to base their currencies on the same commodity, gold, amounted virtually to the establishment of a single monetary system. Among the different members of the system England's monetary unit might be the pound sterling, France's the franc, ours the dollar. But for each country to maintain, or at least strive to maintain, a fixed gold value for its monetary unit meant stability in the exchange values of the different domestic media of payment. On the other hand, the difficulties imposed on trade by changed value relationships between these national currencies left deep impress upon the thinking of men, particularly those engaged in seagoing trade. It is true that other means of stabilizing their relative values than that of providing for their redemption in a common and highly

prized commodity have constantly been promulgated. But most such plans involved either flights into the unknown or presumed more international good will than in fact existed. Developments during the nineteenth century certainly aided the conception that national currencies should be restricted in amount so as to enable them to be redeemed in a fixed amount of the commodity gold.

DIFFICULTIES OF MAINTAINING A COMMODITY BASE

Difficulties of administering our banking and monetary system so as to avoid issuance of an excessive amount of the currency of redemption have in this country been several. In the first place, all rules of monetary strictness may have to be abandoned in periods of emergency. In such periods the dominant consideration is merely to obtain revenue for the state. After the emergency has passed, however, inflationary elements are unlikely to admit that the country can yet do without the continued injection of government currency into circulation. The contentions of the advocates of inflation find additional support among those elements particularly vulnerable to a collapse of commodity prices after government deficit spending has tended to subside. The renewal of demands for paper issues after the emergency carries with it the danger that earlier safeguards will be abandoned permanently. Thus it was that, in our own history, the cessation of fratricidal strife gave birth to a strong and powerful greenback party. It is doubtful if the demands of this party for the issuance of greenbacks in times of peace could have been effectively resisted if the course of our currency history had not been such as to convince its leaders that more was to be gained by demanding the resumption of bimetallism in the years following 1873.¹

A second series of difficulties in this country has sprung from the fact that in our early years banking was rather more a matter of issuing notes than of providing deposit credits. If the course of affairs had not been such as to reveal the dangers of loose note-issuing practices the struggle for a sound currency would have been seriously handicapped when banking developed along deposit-granting lines. It was fortunate for the cause of sound currency that, after the failure of the second United States Bank²

¹ See above, pp. 15-16.

² See Appendix, Chap. IV, Note II.

to secure a recharter in 1836, with the consequence of depriving the country of its principal agency to compel redemption of state bank issues, trade was so greatly handicapped by the existence in circulation of so many note issues of varying degrees of depreciation. By the time of the Civil War the minds of men were thus better prepared to provide stricter conditions of issuance.

The influence of English policies and practices prior to the time of our Civil War also strengthened the argument for the strict regulation of note issuance by banks. In the early decades of the nineteenth century England too had its experience with easy bank note issues. In the opinion of intelligent observers these reckless issues were largely responsible for the financing of so many unwarranted ventures as to explain in large part the serious crises of 1836 and 1839. In the discussion over proper methods of regulation that followed two schools of thought developed. Advocates of the Currency Principle¹ stressed the similarity of bank notes to government issues of paper currency. They insisted that banks' powers to emit notes should be subjected to as strict controls as, through bitter experience, governments apply to their own issues.

The adherents of the Banking Principle, on the other hand, arrived at more liberal conclusions. These argued that the proper analogy was rather between bank notes and bank deposits. They insisted it would be illogical to impose any severer restrictions on banks' note issue, than upon banks' deposit-granting, powers. Essentially, argued proponents of the Banking Principle, deposits and notes are alike in that they represent obligations of banks.

In 1844 the Peel Act was passed by the English Parliament. By the terms of this act further note issues by the joint stock banks were stopped. In addition, increased note issues by the Bank of England were largely reduced to certificates completely covered by coin or bullion. The Currency Principle thus triumphed, and the leading trading nation of the world gave support to the contention that the powers of the banking system to provide note issue currency should be closely confined and restricted.

Note issue provisions governing our National Banks after 1863 were in accord with the Currency Principle. National

¹ See J. L. Laughlin, *Principles of Money*, Chap. VII, Sections 5 and 6, for an account of the Currency and Banking Principles.

banks were required to secure their issues by a deposit of government bonds with the United States Treasury. In 1865 a prohibitive tax was levied upon the issues of state banks. With the government debt generally tending to fall in the decades that followed, this country thus confined its note issues to an amount not much greater at the close of the nineteenth century than—for instance—thirty years before.

With the passage of the Federal Reserve Act of 1913, our lawmakers conceived it the part of wisdom to liberalize the note issuance system. In part the purpose was to provide a currency that could be more easily adjusted to meet the fluctuating requirements of different seasons. There was the further desire to provide for the issuance of currency in panics or other emergencies. Federal reserve note currency could henceforth be secured by commercial paper. Since the volume of such paper may increase sharply in periods of rising prices it might appear as if all the supposed teachings of previous currency history had been abandoned. But two facts cannot be neglected. In the first place, the law imposed a minimum reserve against these notes of 40 per cent in gold. Second, these Federal reserve notes were the obligations of banks (as well as of the government) which were to be administered from the point of view primarily of national, instead of profit, requirements.

With the organization of the country's central banking system, the Federal reserve banks' ability to keep the country's supply of redemption currency on a firm foundation of gold depended, however, upon the wisdom with which the system was administered. Management now became more important, mechanically operating statutes less important, in the preservation of our currency's value. But here develops the danger that, as experience with a managed system grows and understanding of monetary processes increases, old teachings will be discarded simply because they are old-fashioned, and risks of currency insolvency will be more blithely accepted. There is little kudos in extolling the conventional. The inhibited ones of those uninformed about monetary processes are likely to shun the dangers from which the more sophisticated will not shrink. There is a point, in other words, at which enthusiasm in the application of intellectual discoveries should be tempered by the most exacting inquiry relative to their soundness.

DIFFICULTIES OF A PURELY "MANAGED" CURRENCY

Under a managed currency system the wise control of redemption currency depends entirely on the skill of the managers. At the present time most of the earlier automatic controls have been abandoned with the consequence that our banking system can do as much as the greenbackers ever demanded. As a result of amendments to the original Federal reserve statute, Federal reserve notes may now be issued against the security of government bonds. When these bonds are sold to banks the banking system creates dollar spending power for the government just as artificially as if greenbacks had been paid over to soldiers and merchants. Any difficulty in providing bank deposits for the Treasury that may develop from demands to convert deposits into circulating currency can be met by the banking system's use of government obligations as security for Federal reserve note currency. This is indeed the equivalent of greenbackism with the exception that the process is roundabout and more complicated.

But what, the reader will ask, must we say about the fact that the 40 per cent minimum gold reserve requirement for Federal reserve notes is still in force? As a result of the increase in the dollar value of gold in 1933, as well as the impact of disturbed foreign conditions, this country's gold holdings have advanced to a dollar value which would supply the redemption base for a truly astounding volume of the payment media. There can be no dispute over the fact that the only monetary protection, in periods of developing inflation, for our currency's future soundness now lies in the discretion and judgment of fallible men. As we proceed with our study, further facts of this description will be pointed out.

The above is not intended to be any argument for a return to an "automatic" system. It is simply a demand that we recognize things for what they are. Before he is instructed in the art of management, the student must learn how important to us management really is.

CHAPTER V

THE GOLD STANDARD—ITS MEANING AND SIGNIFICANCE

ORDINARY DEFINITIONS OF THE TERM "GOLD STANDARD" ARE MECHANISTIC

It has been argued previously that the evolutionary origins of "money" have been such as to make highly important the question of the commodity to which our payment media give title. Currency issued without specific redemption promises has generally been regarded with distrust. It is admitted that management may yet become the sole basis for the control of the currency volume. But of this we cannot be certain; so, for the present, we must make sure that we understand the basic principles of the most successful monetary system that has had a long career—the gold standard.

The gold standard is usually defined in the textbooks¹ as a monetary system in which each unit of currency is redeemable in a stipulated amount of gold and in which also a given amount of gold is convertible into a fixed amount of other currency. The particular method of converting the commodity gold into currency may be that of having the government set up mints that are open to the coinage of gold on private account in unlimited quantities. Currency may be made exchangeable for gold, on the other hand, simply by having the nation's Treasury, the central bank, or some other authorized agency agree to provide gold bullion for currency. Two-way convertibility thus summarizes this explanation of the gold standard.

Two-way convertibility may, or may not, be the only practical device for making a gold standard system operate effectively. About this something will shortly be said. But, whether in fact it is the sole means of practical operation, the student should note that two-way convertibility provides only a mechanistic defini-

¹ See Appendix, Chap. V, Note I.

tion of the gold standard. It defines this monetary system in terms of the machinery that is set up to make it operate.

For certain purposes mechanistic definitions are defensible. But they may throw little light on the essential meaning or significance of that which is to be defined. It is as if a wash tub were defined in terms of the way it is put together. What we usually want to know is what it is put together to do. Is it to be a receptacle for holding water for lavatory purposes? Is it to be used to store coal? Is it intended to be a nest for household pets? It seems strange indeed that one of the most important terms in monetary history is so generally defined solely in terms of its operating mechanism.

ESSENTIAL SIGNIFICANCE OF THE TERM "MONETARY STANDARD"

To begin our definition let us inquire first into the meaning of the term "standard." A dictionary definition reads "that which is established by authority as a rule for measuring." To apply this to a currency we have next to inquire what quality of a currency we wish to measure. Is it weight, volume, or some other physical characteristic? Surely these qualities are not the most significant, in and of themselves. Is it the ability of a particular kind of currency to command some other currency in exchange? If so our problem would merely be shifted. We should then have to inquire what there is about this other currency that we wish to appraise or measure.

Historically the dominant issue in monetary controversy has been that of the value of the monetary unit. The interest of economists in the effects of particular monetary systems upon the level of prices may indeed have been overemphasized. But there is no disputing the fact that value questions have been paramount. In monetary discussions, therefore, the standard is the rule for measuring fluctuations in the value, that is, the purchasing power, of the monetary unit. It is that commodity with whose fluctuations in value the value of the monetary unit also fluctuates.

What must it mean then to say that a certain monetary or currency system is tied to the gold standard? The answer surely must be that the exchange value of a unit of the currency increases when gold, as a commodity, commands more of other

goods in exchange.¹ If, on the other hand, the exchange value of gold falls, the purchasing power of the currency unit must likewise decline. If there is not this correspondence between fluctuations in the exchange value of gold and of the monetary unit the gold standard is not in operation. Readers will note that when the exchange value, that is, purchasing power, of the monetary unit is high, prices are low, and vice versa.

In similar fashion a monetary system would be on the silver standard if a given amount of silver should fluctuate in value as the currency unit commands more or less of other goods in exchange. To be on a platinum standard there would have to be the same correspondence between fluctuations in the value of a given amount of platinum and of the monetary unit.

SUPERIORITY OF TWO-WAY CONVERTIBILITY OVER OTHER DEVICES

What must a nation do to maintain its currency system on the gold standard? The gold standard should not be expected to run itself. Various difficulties have to be surmounted. If left free to move, the exchange value of the commodity gold will fluctuate from time to time in response to a number of forces; hence it will be necessary to effect some arrangement whereby the value of the monetary unit will fluctuate similarly. To mention a few of the forces operating on gold as a commodity, it is possible that the art of extracting gold from its mineral deposits might be improved so that mining costs were lowered and the output increased. Perhaps, on the other hand, the commercial uses of gold change. Other commodities may also come on the market in greatly altered supply. But whatever are the factors that alter the exchange value of gold, it is required that the purchasing power of the monetary unit fluctuate accordingly. If the value of the monetary unit does not thus fluctuate the gold standard is not in operation.

What practices must be followed by the monetary authority in order to bring about the necessary fluctuations in the value of the monetary unit? The first logical suggestion here would be to vary appropriately the supply of the country's currency. Since the demand for the payment media is not subject to easy control,

¹ Unless, perhaps, the currency unit's purchasing power was out of adjustment with gold at the base period.

their supply must be adjusted if the value of the monetary unit is to be regulated. There is more than one way, however, of regulating the supply of currency. One way would be for the government to employ its fiscal powers to alter the currency volume. When an increase in the payment media is desired the government might draw less currency out of circulation by taxation than it puts back into circulation by its expenditures. Or, if such procedure would be objectionable on fiscal grounds, an agent of the monetary authority, perhaps the central bank, might buy assets from the banking system and issue currency in payment therefor. The above operation would increase the outstanding volume of currency. If contraction were desired, the central bank could sell some of its assets to the banks or the public and take currency in payment.

Such operations could be conducted even though the currency did not include a valuable commodity but consisted solely of paper. How effective would such supply alterations be in adjusting the value of the monetary unit to observed changes in the value of the commodity that is selected as the standard? To discuss this question fully would require us to anticipate conclusions with respect to the effectiveness of such changes in the currency volume upon the value of the monetary unit. The reader might also argue, if it be assumed such supply manipulations would be sufficiently effective, that there would be little point in trying to maintain a commodity currency. A better standard might be within reach. But few authorities would admit that such supply changes could have as prompt effects on the value of the monetary unit as is required. The monetary unit probably could not be kept in constant agreement with a specified commodity through such adjustments in the currency volume. The best that could be done under this type of monetary management would be to approximate the results that are desired. It is necessary therefore to consider some other machinery for establishing an effective gold standard system.

What is next suggested, therefore, is the use of the particular device that has evolved historically—to provide for the constant interchangeability of gold and other currency. We may illustrate by referring to our own monetary system as it operated prior to 1933. If 23.22 grains of gold should tend to be worth more than a dollar (to sell for bullion purposes for, say, \$1.01)

the newly mined gold would not be taken to the mints. It would be sold as bullion. These additions to the bullion supply of gold would operate to prevent the price of 23.22 grains of gold from exceeding a dollar.

Assume on the other hand that the commodity value of gold tends to fall so that, in the absence of a monetary pull, 23.22 grains of gold would sell for less than a dollar. Newly mined gold would then tend to be minted. None of it (theoretically) would reach the bullion market and satisfy the commodity demand. The withdrawal of the new production from the bullion markets would make its value therein higher than otherwise it would be.

The principal difficulties of operating a successful gold standard may thus be envisaged from the point of view of the onerousness of maintaining such convertibility. Suppose a nation with the mint arrangements in force in this country prior to 1933 should inject an enormous amount of nongold currency—such as silver and paper—into circulation. The increase in the currency would weaken the ability of the country to provide gold convertibility in two ways. In the first place, the additions to the currency volume would tend to drive up the price of the commodity gold in the same manner as the price of other commodities. In the second place, there would be more currency that through purely adventitious forces might be presented for conversion into gold. The nation's gold reserves might not be large enough to stand the strain of such conversion demands. As soon as convertibility could no longer be guaranteed the nation would be "off" the gold standard. One of the first principles of successful gold standard operation is therefore to be conservative about the injection into circulation of nongold elements.

Another difficulty can be better explained by specific illustration. Assume that at a value of 23.22 grains per dollar the gold standard was secure in the United States in the year 1910. Would it have been equally secure if, with no other changes, the law should have provided that the dollar was convertible into 46.44 grains? The only answer that can be given is, of course, "no." If dollars were convertible into more gold, demands to convert would require more gold to be paid out. Such demands might exceed the conversion power of the system.

Could the gold standard have then been maintained if the dollar had been made convertible into less gold—15 grains?

Under this condition conversion demands would impose less strain on the redemption facilities. But, if this be true, why would it not be good policy to keep the gold conversion value of the dollar low? The answer to this must be that there might be certain as yet unexplained economic objections to such a policy. From the point of view of ability to stay on gold, however, the crux of the matter is that the higher the gold value of the monetary unit, the more burdensome is the task.

SHOULD THERE BE NONGOLD ELEMENTS IN A GOLD STANDARD CURRENCY?

Let us assume, for sake of analysis, that a nation has no currency other than gold. Would the gold content of its currency unit make any difference to such a nation? The problem of maintaining conversion into gold of other elements is eliminated. There are no other elements. Monetary policy would therefore be largely that of deciding whether there would be advantage in having little currency (in terms of monetary units) and relatively low prices or in increasing the circulation so that goods would command higher prices. It should be evident that there would be no *à priori* advantage of either policy over the other.

Difficulties arise, however, if a country with a currency that consists of other elements than gold finds it disadvantageous, for reasons we need not explain, to lower the gold content of its currency to the degree that conversion necessities require. But if a reduction of the gold conversion value of a monetary unit presents perplexities, why did the nation permit other elements than gold to get into circulation? The answer lies largely of course in the fiscal emergencies the country may have experienced. When such devices as taxation supply insufficient revenue there is an urge to provide the government with purchasing power by manufacturing currency out of a costless good, paper.

The introduction of paper currency, however, might be favored on other grounds than pure necessity. As paper currency is issued prices tend to rise. The country's ability to export is thus diminished. Its imports, however, tend to rise. The gold that goes out in satisfaction of the resulting unfavorable balance of payments may be regarded as a swap for other commodities. Substitution of some paper for gold may enable the nation to obtain products of another country's toil without undergoing

such sacrifices as their acquisition by normal processes would involve. It is in time of war that gold reserves are most likely to be drained away to obtain products of other countries. In wars we are especially likely to find nongold elements injected in the monetary circulations.

VIRTUES OF GOLD AS A MONETARY STANDARD

We may next pass to a consideration of the question whether gold is a good standard for a monetary system as contrasted with other commodities. If it is presumed that some single commodity should be chosen as a standard, it is hard to think of a better one. Gold has a number of physical qualities that fit it admirably for a monetary base. Possibly the most important of these qualities are its durability and high value in small bulk. Its durability is a fact of tremendous significance. A commodity whose outstanding stock depended largely on the current year's production, like the tobacco of the Virginian colonists, would be highly unstable in exchange value. In years of bumper output its exchange value would tend to fall rapidly, and contrariwise in years of low production. But gold is durable; the stock now employed for monetary purposes had its origin in part in the years of Solomon and Caesar, and annual variations in output are unlikely to have great influence upon the existing supply. Even more important than gold's physical qualities, however, is the mere fact of its prestige. Illustrations of the difficulties of rescuing a collapsing currency from complete depreciation are numerous in currency history. On such occasions of distress the most ingenious of plans are looked upon with suspicion; almost instinctively the people turn to gold.

The principal rival of gold among monetary commodities has of course been silver. Many have preached the superiority of systems in which specified amounts of either of the two metals are convertible into the same currency unit. When this plan operates we have one of the characteristics of bimetallism. The discussion of bimetallism brings to the fore not only the question of the relative merits of gold and silver, but the perplexities and complexities of providing a dual base for a nation's currency. If we disregard the latter question, however, and state the problem in terms of one *or* the other and not one *and* the other, we are obliged to point out a serious defect of silver. To a far greater

extent than gold, silver is found in combination with other ores. The output of silver therefore is in large part dependent on the demand for other metals. Silver may continue to be produced in quantity even though its value has fallen greatly relative to other things.

The principal objections to the use of gold as a monetary metal emphasize, however, the alleged difficulties of employing any single metal or commodity as a monetary base and the resulting instability of prices under the single gold standard. As indicated before, the solution some have advocated would be to base the other elements of the circulating media on the two metals, silver and gold. But even advocates of bimetallism would admit that it might be insufficient to produce the desired stability of prices. It was thus inevitable that monetary thinkers should conceive of currency systems under which the same effects might be produced as if a large number of commodities were employed as the supports of the outstanding circulating media. The logical fruit of such thinking would be for the currency system to consist exclusively of paper media the supply of which would be adjusted deliberately to produce desired economic effects such as stability of commodity prices.

An issue that always arises in such controversies is whether a managed inconvertible paper currency could be made generally acceptable. Those who have doubts about the acceptability of such a currency have generally approached the question from the historical and anthropological point of view. Such scholars understand the commodity origins of currency, the fact that currency originated as particular commodities developed more as specialized instruments of exchange than as goods desired because of their ability to satisfy man's wants directly. They point out that paper currency experiments have generally come to grief and thus conclude that man is not yet ready to accept a currency completely divorced from specific liens to a valuable commodity. Insofar as peoples have long submitted to irredeemable paper currency, they contend that it is confidence in the ability of the monetary authority to make the currency eventually redeemable in gold that gives it whatever acceptability it may possess.

With such contentions the author cannot agree. He feels that, however correct commodity explanations of the origin of money and currency may be, most peoples have now developed a suffi-

cient awareness of the abstract concept "money" so that it is completely within our power to represent this money by whatever instruments we may elect. Too many developments have recently occurred to permit continual exaggeration of the importance of the commodity base. Gold in Fort Knox is becoming almost as "removed" a thing as gold not yet mined and also not reconfined to man-made caves. The real question is whether we have yet developed a sufficient understanding of the laws of currency and money to be wise in resting all in the wisdom of our monetary managers. Perhaps a further interlude is required before we would be justified in relegating gold to the limbo of forgotten things.

But other issues are involved. Is it desirable to try to reestablish monetary systems among the nations of the world so that net debts may be settled by transfers of the basic monetary commodity? This question certainly cannot be considered until we learn something about the principles of foreign exchange. The next chapters must accordingly be concerned with the machinery that has been developed to provide for distant payments. A few subsidiary questions will yet demand attention. Are gold ores equitably distributed among the nations of the world? Do the particular nations whose gold production is heavy gain special advantages over those countries not endowed by nature with gold deposits which can profitably be operated? Still other considerations will appear as we increase our acquaintance with monetary problems.

VARIATIONS IN GOLD STANDARD MANAGEMENT

A few concluding remarks about types of gold standard systems are here in order. Provisions for the disposal of newly mined gold are not everywhere the same. In some countries newly mined gold is sold to a local authority which is permitted to coin it or to issue the nation's own currency against it. In other nations such as Australia, where the currency in use is of the type employed in a foreign nation, England, gold produced at home affects the volume of local currency by the method of sales abroad, the resulting credits of which are sold to those who desire to make foreign remittances.¹ In many nations, even our own under the

¹ For interesting explanations of methods of marketing gold production see "The Disposal of Newly Mined Gold," *Midland Bank Monthly Review*, January-February, 1939, and February-March, 1939.

indefinite Gold Standard Act of 1900,¹ the gold standard has resulted rather more from administrative practices than strict legal provisions. There may also be interludes in the effective maintenance of the gold standard. Prior to 1928 France was nominally bimetallic, and the authorities possessed the right to convert the nation's currency into silver instead of gold. In the majority of nations even at the height of the gold standard prior to the advent of the first World War authority existed whereby exports of gold could be subdued by legal or extralegal devices.

Various forms of the gold standard have also developed partly, at least, for the purpose of discouraging the use of gold as an internal medium of exchange. A characteristic of the gold exchange standard² is the machinery that is erected so that conversion of the principal circulating medium into gold may take place abroad instead of at home. Under the "gold bullion standard," England, from 1925 to 1931, made notes of the Bank of England convertible, not into coined sovereigns, but into gold bars of large value.³ The size of the operation required to bring about conversion was the device chosen to prevent unnecessary redemptions and the consequent absorption into the domestic circulation of gold coins. Gold is an expensive medium for hand-to-hand payments.

¹ See Appendix, Chap. V, Note II.

² See below, Chap. XI.

³ See below, Chap. XXVII.

CHAPTER VI

DOMESTIC EXCHANGE

SIMILARITIES OF FOREIGN AND DOMESTIC EXCHANGE PROBLEMS

The subject of exchange may be considered under two headings, domestic exchange and foreign exchange. Both subjects relate to the practices that are employed and the machinery that has been developed to provide for payments when distance separates the payer and the payee. The mere fact of distance is a complicating factor of the first order because, among other considerations, laws and credit practices in the region of the seller may not be the same as those to which the buyer is accustomed. In the case of foreign exchange, however, there is the additional complication that the currency of one country must be converted into that of another. A Frenchman required to remit to the United States a certain sum of dollars is usually able to remit only francs. Some machinery, therefore, had to be developed so that his francs could be converted into the dollars due the American.

The subject of foreign exchange thus involves unique considerations, and for this reason it seems desirable to undertake the examination of domestic exchange procedure first. We shall find, however, that our domestic machinery of today operates so smoothly as to conceal most of the underlying processes. Domestic exchange will be principally important to us because of the introduction it provides for the more involved subject of foreign exchange. We shall attempt, therefore, to outline first our domestic exchange practices as they were conducted prior to the organization of our Federal reserve banks in 1914. Practices of this period supply a better springboard for the study of foreign exchange. After this has been done we shall indicate the respects in which practices were altered with the advent of the Federal reserve clearance system.

THE COLLECTION OF OUT-OF-TOWN CHECKS PRIOR TO THE FEDERAL RESERVE SYSTEM

Let us begin by assuming a party in Crossroads, Ill., to have written a check against his local bank in favor of a Chicago merchant. If this check should be deposited in a Chicago bank with which the Crossroads bank kept an account the process of collection would be simple. The Chicago bank would charge the amount of the check against the account of the Crossroads bank and the Crossroads bank would debit the account of the Crossroads merchant. When collection is completed, the accounts of the Crossroads bank in Chicago, and of the merchant at the Crossroads bank, would be similarly reduced.

Various complications in the collection process might, of course, arise. The Chicago bank at which the Chicago merchant makes his deposit might not hold the account of the Crossroads bank. In this case the depository bank in Chicago might know the bank in Chicago which did hold the Crossroads account and forward the check to this second Chicago bank which would collect against the Crossroads bank. There also would be nothing to prohibit the direct return of the check to Crossroads. If this were done Crossroads could remit by drawing a draft against an outside correspondent, with the payee the Chicago bank.

The amount of the remittance of the Crossroads bank might, however, be somewhat less than the face of the check. The deduction of such an "exchange" charge by the Crossroads bank would be defended on two counts. In the first place there would be the alleged cost of "remitting" to an outside point. For a long period in this country banks insisted that depositors should not employ checks for the purpose of making distant payments. They contended that customers desirous of remitting to outside points should purchase bank drafts for such purposes. But the convenience of the check book finally asserted itself so that banks everywhere found it necessary to maintain accounts in outside banks for the purpose of meeting check debits. Usually such accounts with outside correspondents would draw interest at a rate of 2 per cent or less.

The second alleged justification for the deduction of exchange charges by the drawee bank would be on account of "collection costs." The Crossroads bank, in the above illustration, might be

regarded as an agent of the depository institution in collecting from the Crossroads merchant. Since, however, the Crossroads bank would be put to just as much expense in debiting the drawer's account if the check had been presented over its counters, the validity of this justification was questionable. Later on, particularly after the Federal Reserve Act was formulated, the defense of exchange charges was altered. Exchange-charging banks, particularly the country institutions, then pointed out the special difficulties of operating profitably with which they were confronted as good roads increased the accessibility to their customers of city banks and as interest rates on loans and investments tended to decline. "Established custom" then became an additional defense of the practice of making such exchange deductions.

The history of the development of the check system in this country thus has not been totally unlike the country's bank note experience. Prior to the Civil War, trade was greatly disturbed by the existence in circulation of a mass of bank notes which passed current at varying rates of discount. To a lesser degree bank checks, before the Federal Reserve System, varied in value according to the expense that must be absorbed in effecting collection. There was, however, this difference between the two situations. Bank notes tended to remain longer in circulation. There was no effective machinery for returning them promptly to the issuing institution.

With the more complete development of deposit banking, and the irresistible demand that checks be employed for distant, as well as for local, remittances, certain practices developed which sometimes avoided the necessity of the absorption of the charges by depository banks or the passing of them on to depositors. Country banks might make arrangements with particular correspondents whereby checks drawn against the country bank would be paid at par. If the correspondent bank absorbed the exchange charge it justified this expense on the ground of the profit that it realized in holding the deposit of the country bank.

But this development of "par points" frequently increased the inefficiencies of the check collection system. Depository banks would not always know the location of the par-remitting correspondent. In its forwardings, the depository bank would frequently dispatch a miscellaneous variety of checks to a corre-

spondent located somewhere in the "territory" of the drawee bank. The bank to which such checks were consigned would in turn endeavor to locate the par-paying bank. If it failed, and the reason for such failure might be the mere fact that the country bank had changed its outside correspondent or run down its account with one of its correspondents, the check might again be rerouted. This increase in the number of institutions through which the check passed on its homing voyage added, of course, to collection expenses, including among other items postage and clerical labor. This expense, in one way or another, had to be borne by the users of bank facilities.

In the above explanation it is not intended, of course, to convey the impression that depository banks were always willing to accept for collection at par checks drawn against exchange-charging banks. The depositor's account might be debited for a portion, at least, of the calculated costs of collection. City clearinghouses generally established a uniform schedule of charges. As such charges were levied upon the depositing wholesalers, retailers, and manufacturers, such sellers of goods might demand from their buyers payment in a particular exchange—of St. Louis, or San Francisco, or Chicago. To be able to write such drafts country institutions would be required to keep accounts in several outside cities or to arrange with some city correspondent to supply them with such exchange. In this latter case Crossroads might be provided by a Chicago bank with a draft form against a New York bank which would bear the name of the Crossroads bank. The return route of this draft would then be from New York to Chicago to Crossroads.

THE NECESSITY FOR A GRAND CLEARANCE CENTER

But with outside deposits kept in so many centers, how could an account in one center be converted into that of another? To state the question more specifically, how could a draft drawn by Crossroads against Chicago be used to remit to Fourcorners which, we shall assume, maintained its outside account in New Orleans? If the New Orleans bank had a deposit in Chicago collection of the draft would be easy. But suppose that a correspondent of Des Moines, Iowa, desired to remit to Buffalo. We shall assume that Des Moines kept no account in Buffalo. To maintain connections between such towns so that country-wide

payments could at all times be assured it would be necessary either that all banks in the country should maintain deposit balances in the same center, or that most of them should keep outside deposit accounts in lesser centers the banks of which in turn held accounts in the grand center. If one or the other of these practices were not followed the alternative would be the costly shipping or expressing of currency.¹

Without the aid of a scientifically devised clearance system, domestic exchange practices, before the days of the Federal Reserve System, developed along the lines of establishing New York City as the grand center of the country's system of domestic payments. Not all banks of the country in a position to supply exchange kept accounts in New York. But those that did not generally maintained accounts in cities which in turn maintained deposit balances in New York.

How did this system of employing New York exchange (bank credit) as the country's final medium of payment develop? It has been indicated that neither legislation nor cooperative efforts of banks to systematize procedure were primarily responsible. The old system simply grew up. Early in the country's history the territory financed by the metropolis became the primary entrepôt for the distribution of goods imported from abroad. In 1913 the port of New York handled more than half of the country's total foreign trade. The second most important port (New Orleans) was not even located on the Atlantic seaboard. The center of the manufacturing industry was also much more eastern than the center of population, largely on account of the impetus of the east's early start, as also because of its accessibility to New England's waterpower, and later, in the coal era, to Pennsylvania's anthracite and bituminous. Constantly, streams of goods were flowing from regions whose industries were largely financed by New York City to the other sections of the country. Banks in all parts of the country were generally desirous of building up credits in New York. They knew the time would come when they would be called upon to provide payments to industry located in, or financed especially by the banks of, that section of the country.

¹ In the past, bank shipments of currency were sometimes avoided by trading obligations with the United States Treasury which, otherwise, might have been obliged to ship currency in the opposite direction.

But this was not all. The New York Stock Exchange early became the foremost mart for security trading. To satisfy the credit demands of security brokers became an important function of New York City banks. Such demands probably were far more elastic, that is, responsive to changes in interest rates, than is generally true of manufacturing or trade. Lower interest rates, in other words, would have more effect in the security field in the direction of stimulating borrowings. New York became the financial center because its banks found it easier to absorb almost any amount of currency sent to it than those of other cities. Idle business periods in the interior generally witnessed the dispatch to New York of funds not required at home. Before the Federal Reserve System the maximum rate paid by New York City banks on minimum balances was generally 2 per cent.

PREMIUMS AND DISCOUNTS ON NEW YORK EXCHANGE

The intensity of the demand for New York exchange (credit) would vary, of course, from time to time. During certain periods banks in the vicinity of Chicago would be under seasonal pressure to provide the means of remittance to the east. At the same time, perhaps, local credit demands might have become less intense. Under such conditions banks in the Chicago district would become desirous of acquiring credit in New York at the expense of holding funds at home. Then banks, in their dealings with each other, would bid up the price of New York exchange.¹ If the price of a \$1000 New York draft was \$1000.40 it would be said that New York exchange was commanding a premium of 40 cents.

Under opposite conditions—with New York balances high and local demand for credit accommodation increasing—middle western banks would become more anxious to convert New York exchange into funds available for local use. Chicago banks would then enter the market more largely as sellers of New York exchange, and New York credit might not sell at par, or at so high a premium. The extent of the discount the seller might be obliged to take would increase as the pressure continued to convert New York exchange into funds at home.

¹ These exchange charges refer only to dealings between banks. Other charges imposed by banks upon customers ordinarily had no relation to these interbank charges.

The existence of these premiums and discounts is illustrated by the following excerpt from the financial section of *The New York Times* for May 19, 1910: "Exchange on New York at Boston was 10¢ discount; Chicago, par; St. Louis, 25¢ premium; New Orleans, commercial, \$1 discount; bank, 90¢ premium; San Francisco, 50¢ premium; St. Paul, 75¢ premium; Savannah, buying, 75¢ discount, selling, 75¢ premium; Montreal, 15 $\frac{5}{8}$ ¢ discount."

How high could the exchange on New York go in Chicago in periods in which a premium was developing? The maximum height of the premium would of course be restricted to the cost of shipping currency. In 1914 the writer inquired of an express company as to the charge for shipping \$1000 of currency to New York from various centers referred to in newspaper quotations. The rates quoted were 50 cents from Chicago, 60 cents from St. Louis, 75 cents from New Orleans, and above \$1.25 from San Francisco.

How low could the discount go on New York exchange in these various centers? The maximum discounts, like premiums, would be restricted to currency shipping costs. A St. Louis bank desirous of converting New York exchange into cash would not sell at a discount exceeding 60 cents. Rather than accept such a discount it would be more profitable to instruct its New York City correspondent to dispatch the currency and debit the express charge to its account.

The price of New York exchange in other centers would thus vary according to changes in the relative demand for funds in New York and for use at home. But the amount of these charges expressed in terms of premiums and discounts on a \$1000 draft would be confined within a range fixed by the expense of shipping currency.

If the reader learns this principle thoroughly he has made a good start in understanding fluctuations in exchange rates between currencies each one of which represents a fixed amount of gold. The relative amounts of gold the two currencies represent would fix the par of exchange about which fluctuations would occur as the preference of bankers for foreign funds should increase or diminish. But again, as in the case of domestic exchange, the range of these fluctuations would be determined by shipping costs (of the monetary metal, gold). Application of the principles that have been developed in this discussion will be

made in the next chapter to the problem of explaining exchange rates between gold standard currencies.

WHY PREMIUMS AND DISCOUNTS WERE PUBLISHED

Several concluding inquiries are now in order. Perhaps, as the writer hopes, the student has developed some curiosity as to the reason for the publication in the financial sections of newspapers of the going premiums, or discounts, on New York exchange in various domestic centers of finance. Who would be expected to have interest in such information?

The first suggestion offered might be that the banks themselves desired this information. Some of them did. But banks do not comprise any very important segment of newspaper clientele. Relative to other readers bankers are not very numerous. Then again it must be remembered that the banks which had the greatest stake in the quotations supplied the newspapers with the information that was published. The real answer must be that the course of premiums and discounts was of interest to a wider class of businessmen.

But why should a merchant have any interest in the prices bankers were paying each other for New York exchange? It has been pointed out that the exchange charges imposed by banks upon their customers ordinarily bore no relation to the premiums and discounts we have been explaining. The real interest of businessmen in the quotations had to do with their "barometric" value, that is, with the light they threw upon local credit conditions. An increase of a premium on New York exchange, or a lessening of the discount, would indicate that banks were finding such restricted outlets for their loanable resources at home that they were becoming willing to pay a higher price for New York City balances. An increase of the discount, or a lessening of the premium on New York exchange in a particular center, on the other hand, would tend to forecast increasing local demands for credit.

Such indications of the changing state of the local credit market might be directly serviceable to the businessman in helping him better to time his credit applications. It is of course true that relatively few businessmen were highly aware of the significance of domestic exchange fluctuations. But the paucity of regional barometers of trade and finance made domestic exchange rates

more important than otherwise might have been expected. By far the greater number of the barometers of business in current use referred to national conditions. Regional indexes were then even scarcer than at the present time.

CORRECTIONS OF ONE-WAY CURRENCY MOVEMENTS

The student should also be curious about another question. With all this ebb and flow of funds from local to national financial centers, what forces, if any, should be expected to operate to prevent the more or less complete drainage of funds from particular regions? Would any special influences come into operation automatically to restrict such a movement? Would the section losing currency shortly experience higher interest rates, or lower prices, or undergo some other development that would operate to reattract the lost currency? The more speculating the student does upon this question the better prepared will he be to study the forces that allegedly operate to help countries on a gold standard to avoid extreme losses of gold. It is important to realize that international trade and finance is not a completely different subject than the more neglected one of intracountry regional trade.

CHANGES IN DOMESTIC EXCHANGE PROCEDURE SINCE THE FEDERAL RESERVE

This chapter has to do with pre-Federal reserve conditions. Reference, therefore, must be made now to the tremendous improvements in domestic exchange practices that have since been effected. In large part the evils of indirect routing of checks to the drawee institution have been eliminated. Member, as well as a large portion of nonmember, banks now keep deposits for clearing purposes with the district Federal reserve banks or with a member which clears for them. The typical route of a check under this clearing system is from depository bank to reserve bank, thence to drawee bank, with the result merely of shifting balances (in the case of member banks their legal reserves). When interdistrict clearing is involved, with the drawee bank located in one Federal reserve district and the depository institution in another, the normal route would be from depository bank to reserve bank, thence to the second reserve bank and back to the drawee bank. Interdistrict clearing gives

rise to credits and debits between reserve banks. But net balances between reserve banks are cleared through the Gold Settlement Fund in Washington in such a way that the physical movement of currency is minimized.

The system of correspondent banking has not disappeared under the Federal Reserve System. Interior banks still need depositories in the financial centers for the purpose of securing investment and credit information as well as to a limited extent for collection purposes. But banks no longer require accounts in New York so that they may provide their customers with an acceptable means of making distant payments. Drafts against the district reserve banks will suffice and, by means of an efficient wire service, funds may be instantaneously shifted about the country. Furthermore, member bank drafts against regional reserve banks are accepted at face value at any other reserve bank, or member thereof. For this reason premiums and discounts on New York exchange have disappeared, and the financial sections of our newspapers no longer report them. The value of a study of earlier domestic exchange machinery is thus to be found in the light it throws on the determination of exchange rates between countries with fixed gold values for their currencies. In the international field, improvements in machinery have not developed to the extent they have in domestic exchange through the perfection of the Federal reserve clearance system.

REFERENCES

- W. RANDOLPH BURGESS, *The Reserve Banks and the Money Market*, Chap. 5.
JAMES G. CANNON, *Clearing Houses*.
JOSEPH FRENCH JOHNSON, *Money and Currency*, Chap. 5.
E. W. KEMMERER, *Seasonal Variations in the Relative Demand for Money and Capital in the United States*.
WALTER E. SPAHR, *The Clearing and Collection of Checks*.

CHAPTER VII

EXCHANGE BETWEEN FIXED GOLD CURRENCIES

VARIETY OF EXCHANGE PROBLEMS

In explaining how the monetary unit of one country gets evaluated in terms of the monetary unit of another country we have to take account of a variety of circumstances. In the first place, we might find that each of the two currencies is convertible into a fixed amount of gold. The determination of exchange rates between these currencies would be a problem of the "gold exchanges." Second, one of the countries, perhaps that of the exporter, might be on a silver standard while the importer might reside in a gold standard nation. In the gold country the exchange problems that would thus arise would be discussed under the heading of the "silver exchanges." Third, we have to take account of situations in which the currency of one country is on a gold or silver basis and that of the other on an inconvertible paper standard. Finally, we shall need to understand how exchange rates would be fixed when both countries are on an inconvertible paper standard. In this chapter we shall be concerned with the determination of exchange rates between gold standard currencies.

MINT PARS AND DEVIATIONS THEREFROM

Let us go back just before the First World War, when the gold standard was in operation in the United States and England, to find an illustration of the determination of exchange rates between countries with currencies of fixed gold content. At this time the newly minted sovereign, the coined form of the British pound sterling, contained 7.3223 grams of pure gold. The dollar's pure gold content was 1.5046 grams. 7.3223 is to 1.5046 as 4.866 is to 1. In other words, prior to 1914, newly minted sovereigns or equivalent amounts of gold bullion could be presented at the United States Assay Office and converted into \$4.866.¹

¹ Compare Franklin Escher, *Foreign Exchange Explained*, pp. 7-9.

Under these conditions the sterling-dollar exchange rate would move in accord with the same principles as those which confined the Chicago-New York exchange rate within the limits of a 50-cent premium and a 50-cent discount for each \$1000 of New York funds. The extent to which the pound might go above \$4.866 should be regarded as the equivalent of the premium on New York dollars, and vice versa for the discount. Whatever forces would operate at a given rate of exchange to cause holders of dollars to prefer pounds would push the dollar price of pounds up. Factors operating in the reverse direction to induce holders of pounds to convert them into dollars would lower the dollar price of pounds.

What would be the ingredients of the demand for pounds on the part of owners of dollars? First of all, there would be pound payments to make on account of our purchases of commodities from abroad. This does not necessarily mean, of course, that the commodity imports of the country requiring pound payments would be entirely from Great Britain. We might have purchased coffee from Brazil, and agreed to remit pounds to a London bank so that the Brazilian exporter would be in a position to draw against this bank and thus acquire the pounds for himself. The imports of merchandise affecting sterling rates would have to be defined simply as imports calling for pound payments, and not necessarily purchases from Great Britain.

Pound payments would also be required to compensate British shipping concerns for their freight charges and British insurance companies for marine and liability policies supplied our merchants and bankers. From time to time American corporations would declare dividends in dollars, and British stockholders in these companies might elect to convert their dividends into pounds. Payments of interest to British bondholders in American companies would create a similar demand for the conversion of dollars into pounds. American tourists traveling in England would be signing American Express traveler's checks previously purchased with dollars. Pounds would thus have to be remitted to British banks to compensate them for the dollars they advance to these tourists. Owners of dollars might also have subscribed to a British security flotation and become obligated to remit pounds on this account. Lastly, British banks might be converting dollar balances into pounds if for no other reason than the urge to

return balances to a center where relative interest rates were perhaps higher. When transactions of the foregoing types operated to enlarge the demand for pounds at a faster rate than pound credits were being acquired by Americans, the dollar price of pounds would tend to increase.

But what might be the forces operating to increase the supply of pound credits by American banks against which pound drafts could be sold? Such transactions would be the reverse of those which have just been listed. Exports of merchandise, sales of American securities to foreign investors, travel expenditures of foreigners in the United States, dividend and interest payments to Americans owning securities in foreign companies, and a relative weakening in interest rates abroad would tend to increase payments to us and thus keep down the dollar price of sterling.

THE PREWAR PREFERENCE FOR POUND PAYMENTS

To understand the effect of the above-listed types of transactions it simplifies thinking, perhaps, to assume that all export types of transactions by the United States would call for pound payments to us, while our imports would require us to remit pounds. As a matter of fact, however, an American export to the British Isles might call for a dollar payment to us, just as an American import would result in the transference of dollars to British banks. It might be assumed that the general practice would be for the British banks to maintain exchange balances in New York instead of for New York banks to hold such balances in London.

Such a reversal of assumptions as to practices and procedure, however, would not require us to modify conclusions regarding the effect on the dollar-pound rate of exchange produced by particular operations. Net imports of Americans (excess of imports over exports) would then operate to increase the dollar holdings of British banks, increase the disposition of these banks to offer dollars for pounds, and lower the sterling price of dollars. A lowering of the sterling price of dollars is equivalent, of course, to an increase in the dollar price of sterling, which we have argued above would be the effect of enlarged imports by Americans (which effects of course might be offset by other transactions).

As a matter of fact, procedure would vary from time to time (in one period dollars and at another pounds might be the gener-

ally employed payment medium) and also, at any given time, some transactions might be couched in such terms as to require pound payments, while other and simultaneous transactions would necessitate dollar payments. New York and London banks might maintain double ledger accounts with each other so that pound remittances would reduce a New York bank's balance in London, while a dollar payment to English firms would be handled in such a way as to increase the balance of a London bank with the same New York bank. The effect on exchange rates of a reduction of New York balances in London, however, would be substantially the same as an increase of London balances in New York. Either would mean that pounds have become scarcer relative to dollars, and the pound, therefore, would tend to rise in terms of dollars (for example, go up from \$4.87 to \$4.87 $\frac{1}{8}$).

But which type of practices was typical? Prior to the first World War, when the international gold standard was in its heyday, London was predominant as the world's financial center, instead of New York. It was rather more a question, in other words, of the size of balances kept by New York banks in London than the other way around. The pound was more often stipulated as the medium of payment in international transactions. Bills calling for payments by importers in pounds were commonly drawn even in transactions in which English trading firms were not involved. Generally speaking, also, English exporters drew few bills against American buyers. The usual procedure when an English firm was the exporter was for it to await payment in pounds.¹

Why was it that the pound sterling achieved this status of a preferred medium for international payments? Answers to this question are not totally different from those which have been offered to supply explanation of the preference for New York exchange in our system of domestic payments. England made the most rapid strides of any nation in manufacturing and shipping after the Industrial Revolution, and its early discovery of rich coal deposits helped to balance its shipping cargoes and thus benefited its commerce. Imported raw materials are bulkier than exported manufacturing goods. But exports of coal could be used to fill cargoes on the outward voyages. England's

¹ Compare George Clare and Norman Crump, *The ABC of the Foreign Exchanges*, pp. 11-15.

geographical position at the ocean gateway to Europe also made it more or less inevitable that the country should become an entrepôt for the redistribution of goods to Europe. It was more true of England than of any other nation that the course of trade would require payments to it. Possession of London credits would permit such payments to be made.

But this was not at all. Either on account of the foregoing facts or for independent reasons, England's currency, the pound sterling, developed the finest reputation for "stability" (redeemability in gold) during the nineteenth century. Until toward the close of the century, important rivals were unable to decide whether their monetary objective should be gold monometallism or bimetallism; and when France did restrict the use of silver in the decade of the seventies it still retained the nominal right to redeem its paper circulation in silver instead of in gold. Germany, as well as Austria and Russia, did not achieve the gold standard until late in the century.¹ The international reputation of the dollar was weakened by our vacillating policy with reference to bimetallism. In the decades of the seventies and the eighties the United States was unable to decide definitely for or against bimetallism, with the consequence that it compromised on gold as the monetary standard but with the circulation constantly diluted by injections of nonstandard silver currency. The depreciation of the greenbacks in the Civil War period further weakened the reputation of the dollar.

The pound was thus benefited in the nineteenth century by England's steadfast allegiance to the metal that eventually triumphed as the standard of monetary systems. Partly as a consequence of this fact, and also for other reasons, London developed superior facilities for financing foreign transactions. Some of its mercantile concerns during the early part of the century became so well known among the trade that they were frequently called upon to "accommodate" trading firms even in other centers by permitting bills to be drawn against them, which bills, after *acceptance*,² would have a wider negotiability than the

¹ Germany undertook to abandon the silver standard after the Franco-Prussian war of 1871. For the transitions to gold of Austria and Russia, see below, Chap. XII.

² An acceptance is merely a statement signed, perhaps in red ink on the face of the draft, that the drawee will pay it at maturity. The business of

drawer's own obligations. As this practice developed, such concerns sometimes found it preferable to engage in this business, the revenues of which sprang from the commissions, and to restrict their mercantile business.¹ It was inevitable thereafter that other specialized institutions, bill brokers and discount houses, should be created for the purpose of converting the "time" claims of foreign sellers against the buyers into immediate credits of the accepted medium, pounds.² During the same period the Bank of England developed as an institution that, even though purely private in direction and ownership, accepted as its leading responsibility the maintenance of England's currency and credit on a solid foundation of gold.

The above is not to imply that, in the nineteenth century, the pound escaped all competition as the world's dominant currency for the settlement of international transactions. As German trade grew German authorities, late in the century, made strenuous efforts to have the mark substituted for the pound. The multiplication of branch offices of German banks in foreign centers is one indication of the intensity of this struggle. Paris, however, developed more on the lines of a provider of long-term investment and developmental credits. In addition to the bimetallic handicap, the Bank of France was not fortified by complete "open market" powers.³ The United States banking system lacked the stabilizing influence of a central bank until 1914, and, until after the passage of the Federal Reserve Act in 1913, national banks were not permitted to accept drafts even for the accommodation of exporters and importers.

The typical practice in trade between the United States and England was thus for our exporters to draw bills against English importers payable in pounds. Such bills, under various proce-

acceptance houses is to accept drafts for the benefit of importers and other beneficiaries. The beneficiary might be located in another country. In the typical transaction the beneficiary agrees to provide cover (the funds out of which the draft is paid by the acceptor) on or before the maturity date. The acceptor receives a fee for this service.

¹ See Appendix, Chap. VII, Note I.

² See Appendix, Chap. VII, Note II.

³ The importance of these powers to central banks will be set forth in Chaps. XXII-XXIV. What needs here to be understood is merely that without the assistance of a central bank a particular center would be unable to guarantee complete accommodation to participants in foreign trade.

dures, would be passed along to such of our banks as maintained important foreign exchange departments. When sent abroad by our banks and collected from English acceptors, sterling balances would be built up in London against which banker's drafts could be sold to provide owners of dollars with the means of discharging sterling debts. As previously indicated, a resident of a "dollar area" might acquire a sterling obligation as a result of a transaction with still another country.

THE VARIETY OF BILLS AND RATES

When we speak of a change in the dollar price of pounds we must be clear as to the particular instrument calling for pound payments that is acquired. Bills drawn by exporters in this country against foreign importers or their banking agents in London were known as commercial bills. The price at which these could be sold to our banks¹ would vary, among other considerations, according to the financial reputation of the drawer. The foreign drawee might dispute his obligation to pay, and, even though the goods covered by the transaction might be sold to indemnify the banker who had acquired the bill, losses might result. In such instances the banker initially purchasing the trade bill would endeavor to recover from the drawer. The price our banks would pay for commercial sterling bills would thus vary according to the credit of the parties to the transaction as also according to calculated handling expenses. This is one of the reasons why newspaper exchange quotations generally referred, not to the price paid by the bankers to sellers of commercial bills, but to the price exacted by our bankers in selling sterling means of remittance.

But there were different varieties of banker's bills also, and the initiate should know that a quoted rate must refer to a particular type of bill. "Long" bills or banker's checks, generally defined as bills payable by the foreign drawee more than 30 days after the date on which they are presented for acceptance, would not command as high a price as a "short" bill. In the case of long bills the foreign drawee is not required to give up currency so soon. Short-dated bills, on the other hand, would be

¹ Or, conversely, the rate of interest employed to discount future sums to present values.

cheaper than bills payable on "sight" or "demand." The most expensive method of making a foreign remittance would be by "cable" or "telegraphic transfer." The latter type of remittance requires the foreign bank drawee to give up funds at once, and there is the additional charge of the cable company. Strictly speaking, of course, the cable is not a bill at all. More often than not the price of the demand check is regarded as the basic rate, basic in the sense that analysis is concentrated on this rate, with deviations from it the important question in the case of the longer banker's bills. But the student is warned to determine from the context itself the precise instrument to which the quoted rate refers.

EXCHANGE PARITIES AND THEIR DETERMINATION

How high could the dollar price of sterling go as the demand for sterling credits exceeded the supply? All we have done thus far is to indicate the forces that operated to move the rate in one direction or another. The forces noted would operate on any kind of exchange, be it the gold exchanges, or exchanges between two paper currency countries, or exchanges between gold and paper currencies. But, just as in the case of domestic exchange, the characteristic feature of the gold exchanges is that rates were restricted within a range removed from the mint par by the expenses of shipping the basic currency.

What elements entered into the cost of transporting the amount of gold in the British sovereign from New York to London, or in the other direction? The most important were, first, the cost of packing the gold and transporting the metal to the ship; second, the freight charge; third, the expense of securing insurance protection against loss at sea; fourth, the interest charge during the period of transit.

Were these items of cost at all times fixed? A little reflection would indicate they must change from time to time. Packing expense consists largely of wages and is relatively stable, and freight charges do not vary ordinarily within wide limits. But during wars in which hostile naval forces prey on shipping, insurance rates may change terrifically. Shipping companies can generally be held responsible for losses at sea only if it can be established that the ship has not been navigated with reasonable prudence. To protect against losses special insurance is required.

The interest charge is also variable but is somewhat difficult to discuss in categorical terms.

Given the prevailing level of interest rates, why is it difficult to determine the extent to which interest enters into the expense of transporting the money metal from one market to another? The answer is that it is not at all times clear whether, or to what extent, a bank loses lending power by exporting gold. Take first of all a New York bank in pre-war days, the period to which the discussion in this chapter refers. To obtain gold from the assay office of the Treasury the bank would be required to give up other currency, and the loss of this currency would be expected to reduce its power to extend credit. The interest lost by putting gold on the water would seem to be as clear a charge as packing or freight. But what about a bank in a country in which there was no statutory reserve requirement? Would the temporary immobilization of its reserve holdings, resulting from gold shipments, really require it to reduce loans or investments? Shortly the gold will arrive in another center, where balances will be obtained. Such balances support the bank's deposit or note liabilities perhaps as effectively as if domestic currency had been retained. In case of necessity drafts could be sold against these foreign balances to reconvert them into domestic currency.

In modern times there is a general tendency to rely on a country's central bank to ship gold and to make foreign funds available. These central banks may be permitted to consider foreign holdings, "devisen," as part of their reserves. Again, these banks may not be compelled to operate under any statutory reserve requirement. To the extent this is true the necessity is lessened for calculating interest charges on the gold during its period of transit.

EXCHANGE RATES AT WHICH GOLD WILL MOVE

For several reasons, therefore, the expense of shipping gold cannot be regarded as fixed. Let us assume, however, the expense of shipping the gold content of the sovereign, 7.3223 grams, as 2 cents, the usual prewar estimate of "normal" charges. Thus \$4.8865 would be the rate of sterling-dollar exchange at which gold would tend to be exported from the United States to England. Unless banker's checks could be sold at this rate it would not be profitable for our bankers to export gold. Neither

would it be likely that the price of sterling could advance beyond this rate. Competition among banks for the profit that would thus arise would lead to offerings of sterling at the level at which there would be indemnification for all costs, that is, at the level of \$4.886.

Under the assumptions postulated, the dollar price of sterling, on the other hand, could not fall below 4.846 without inducing an inward flow of gold. If pounds could be bought by our bankers at any lesser figure, those pounds could then be converted into gold and shipped home. There would result sheer profit in such transactions, which interbank competition would be expected to eliminate. Nor would it be profitable for New York banks to import gold if the pound credits necessary to obtain gold would cost more than \$4.846.

There are certain exceptions and qualifications to be made to the above statement. Certain observers have noted a tendency for gold to be imported even though exchange rates were above the calculated gold import point.¹ Losses on such transactions might be charged to advertising. Banks possessing the facilities required to participate in such gold movements, in the estimation of the public, must be very important institutions indeed. Indirect advertising of this sort might be regarded as more effective than newspaper or billboard displays in that it seems to be more "refined." The physical increase in a market's supply of gold might also exercise a buoyant effect on security prices, and banking interests might favor a rising security market. More gold meant a larger basis for credit and possibly lower interest rates. The sale of exchange to another bank, on the other hand, would not increase the market's supply of gold but would merely increase one bank's reserve at the expense of another.

THE DESIRABLE RANGE OF EXCHANGE FLUCTUATIONS

Exchange rates between currencies with a fixed mint par, nevertheless, cannot move beyond a certain narrow range. Would it be better if the zone of exchange fluctuations were wider? Or narrower? As an approach to this question, it will be noted that the range of exchange fluctuations between currencies of fixed gold value has been accidentally determined. If gold were a

¹ Compare Hartley Withers, *Money Changing, an Introduction to Foreign Exchange*, pp. 159-164.

bulkier commodity than it is the zone of fluctuation would be greater. If it were less bulky the gold exchanges would move within narrower limits. If shipping costs could be further sharply reduced as a result of mechanical improvements in transport the area within which rates could move would be reduced further.

Could it be expected that the range of fluctuations thus accidentally determined would be the optimum? This question raises a very important issue, one to which we cannot here give complete consideration. We can merely pose the general problem. If the gold standard has been, or is to be, a sturdy institution it must be capable of developing within itself some automatic means of restricting large losses of gold. A nation's balance of payments cannot be on the debit side indefinitely,¹ that is, be "unfavorable" as the mercantilists would have it, if that nation is to stay on the gold standard system. As it loses gold some forces must begin to operate which tend either to restrict such losses or even to transform an outflow into an inflow.

Between gold currencies, what can such forces be? When we owe more than is due us, in relation to England, the pound tends to cost more. How much more? Under fixed mint pars sterling could only move up a few cents per pound before the limit of \$4.886 would be reached. Beyond this limit a gold outflow would take place and estop a further weakening in the pound value of the dollar. Perhaps this outward gold movement will prove on analysis to be just as good a corrective factor as might be a further appreciation in the cost of acquiring a foreign currency. Restricted gold holdings tend to increase interest rates at home and perhaps to exert a depressing effect on domestic prices. Higher interest rates attract idle foreign balances, and low prices assist a country's exporters to sell abroad. Is it better to depend upon such "correctives" than to undergo pronounced fluctuations in the exchange market?

Before trying to formulate even approximate answers to this question it should be helpful to study the fixation of exchange rates between nations the currencies of which are not tied together at a fixed par. Such a condition we shall find to exist when the currency of at least one of the countries is composed of irredeem-

¹ Unless it is a large producer of gold, as in the case of Australia or South Africa.

able paper. For this reason the determination of exchange rates between such currencies will be the subject of our analysis in the next chapter.

TRANSACTIONS WITH THIRD PARTIES

One concluding point needs to be emphasized and illustrated. It was remarked that changes in exchange rates between the currencies of two countries are not produced solely by transactions between parties residing in just these countries. Operations with firms in other nations may affect markedly the relative supply and demand for the currency with which we are concerned. Such an illustration was provided by the peseta-dollar exchange after the entrance of the United States in the First World War.¹

What was the explanation of the tendency for the dollar then to move to a discount in Spain? The balance of payment between the two countries was heavily in favor of the United States, and adverse to Spain. But our military allies, England and France, were buying food and mules heavily in Spain, partly to save shipping space that would have been required on overseas purchases, and were drawing against dollar credits to make payment therefor. In Spanish markets dollars increased in supply from the influence of these combined operations more rapidly than Spain's obligations to the United States increased its demand for dollars. On this account the peseta rose in terms of the dollar, and the dollar went to a discount.

¹ See H. L. Reed, "Senator Owen's Proposal to Stabilize Foreign Exchange Rates," *American Economic Review*, September, 1918, pp. 661-669. I now think Senator Owen's proposal, which I then endorsed, to have been ill advised.

CHAPTER VIII

PAPER CURRENCY AND SILVER EXCHANGES; COMPARISONS WITH THE GOLD EXCHANGES

EXCHANGE EQUILIBRIUM BETWEEN PAPER CURRENCIES

In the last chapter we stressed the similarity of the problem of domestic exchange rates, under pre-Federal reserve conditions, and that of exchange rates between countries with currencies of fixed gold content. Our next task will be to set forth the principles that would govern exchange rates ~~if the currency of at least one of the countries concerned is assumed to consist of irredeemable paper.~~

To simplify analysis let us assume that our economic world consists of only two currency-emitting nations. One of these nations is America, whose monetary unit will be termed the "Am." The other currency empire is England, and its monetary unit we shall call the "Eng." Let us further assume that American banks regularly maintain Eng balances in England, while, on the other hand, England's banks do not keep balances in America. The international medium of payment is thus assumed to be the Eng. It is in terms of Eng's that foreign exchange bills are drawn.

Suppose that on a certain date the Eng is worth five Ams. Why is it worth this particular number of Ams? The answer, of course, must be that at this rate (price) the supply of Eng credits acquired by American banks neither has been built up to excessively high levels, nor, on the other hand, has fallen below the amount that is regarded as necessary to take care of estimated sterling requirements. The amount of Eng balances that will be desired by American banks will vary with a number of circumstances. One of these would be the intensity of the loan demand at home. Another would be the interest rate which funds in London would earn. From time to time the demands of American banks for Eng credits will undergo a change. Balances that are regarded as sufficient at one point of time might seem too low at another.

Changes in the desired volume of Eng credits may thus operate to take up some of the slack occasioned by an excess or deficiency in the ratio of America's sales to its purchases from England. But there is a limit to the extent to which American banks will be willing to let their balances in London rise or fall. It is thus approximately correct, more nearly so in the long period than in the short, to say that our payments must be matched by our sales, and that it is a function of exchange rates to produce such an equivalence. If the Eng is exchanging for five Ams the reason, therefore, must be that, at this rate, America is acquiring just about the supply of Engs required to meet its Eng obligations. If the exchange rate can be said to have a function it is that of contributing to a rough equivalence between outward and inward payments.

HOW A PREVIOUS EQUILIBRIUM MIGHT BE DESTROYED

Suppose certain forces should begin to operate to disturb the previously existing balance of payments. Assume that in America rainfall is adequate and crops are good, while in England they are poor. Suppose American industry witnesses the introduction of significant technological improvements and inventions, that it is not afflicted by serious labor disturbances, and that in the monetary field nothing occurs to push up prices and costs. As a result of such forces America might succeed not only in selling more of its products to England but also in superseding English enterprise in a portion of the domestic market. What will now happen to the Eng value of Ams?

The answer of course is that one Am will tend to become worth more than the previous amount of a fifth of an Eng. Or, to express the rate contrariwise, the Eng will exchange for less than five Ams. American exporters will be drawing bills calling for more Eng payments so that the supply of Eng credits that comes into the possession of American banks will increase. American banks will now be unable to sell Engs for as many Ams as previously. The Eng goes down in terms of Ams so that it will require more than one Eng to be able to obtain five Ams.

What will be the effect of this drop in the Am value of Engs? Our exporters will of course find it relatively more profitable to produce for the domestic than for the foreign market. Sales abroad will not produce as many Engs as before. Exports from

this country will thus tend to be lower than they would be if the Am value of the Eng were higher. Through the exchange market, in other words, the signal is given that England's economic position does not permit such large purchases as previously from America. Contrariwise, America will tend to import more from England than if the Am value of the Eng had not fallen.

How great will be the resulting decline in the Am value of the Eng? If the Eng falls to a point at which American imports are sufficiently encouraged and American exports sufficiently discouraged there will be no need for a further decline. If outward and inward payments, expressed here in terms of Eng's, reach a balance, the rate of exchange will again be in a state of equilibrium.

If, on the other hand, forces operate in contrary fashion, so as to increase England's ability to sell to America and discourage sales from America, the Am value of Eng's will tend to rise. Means of remitting to England will then become relatively scarce. One Eng might now tend to exchange for six Ams or whatever number of Ams would be necessary to permit an equilibrium between outward and inward payments.

ELEMENTS IN THE BALANCE OF PAYMENTS

The student, in reading the above paragraphs, should not interpret the expression "balance of payments" too narrowly. Sentences should not be taken out of context so as to imply that only exports and imports of merchandise count in the creation of current debts and claims. Tourist expenditures, payments to shipping and insurance companies, and other "invisible" items certainly enter into the problem. There is also the perplexing question of capital transfers. A characteristic of nineteenth century financial development was the tremendous degree of international investment and the refinement of institutions like security exchanges which give out current quotations and increase the marketability even of "long-term" obligations. In recent disturbed years an increased amount of liquid capital has come into existence which may be moved from one center to another at the volition or caprice of the owner. Payments of England to America might originate not so much in response to a displacement of the export-import balance as because of the

¹ Invisible in the sense that their volume cannot be learned merely by inspecting custom house returns and shipping manifests.

development of a distrust in the future value of the Eng. The Am value of the Eng, in other words, might fall not because England's technical ability to export is weakened but because its resolution to avoid inflation is distrusted. The opinion perhaps may have spread that England is about to undertake reckless measures of currency expansion. Since speculation exists in foreign exchange as well as in other markets, the Eng may weaken merely because it is anticipated that its Am value in the future will be lower. Capital transfers in short periods may far outweigh the importance of the export-import balance.

Let us introduce into our analysis, therefore, the assumption that a tremendous capital transfer from Eng investments into Ams is occurring. To what extent will this flight from Engs weaken Engs and strengthen Ams? Will the Eng fall just sufficiently to restore the unbalance due to the movement of "smart" capital from England? In answering such questions we are forced to take full account of the way speculation operates. Large withdrawals of funds by shrewd investors may set the stage for the wholesale imitation of this action by the ill-informed and less astute owners of liquid capital. These withdrawals may gather momentum as they proceed and operate to depress the exchange value of a foreign currency far below the point at which equilibrium would be reached if only thoughtful capitalists operated. As scared capital continues to be withdrawn from abroad the weakening of the value of the foreign currency encourages "short" operations by the sophisticated. Thus depreciation comes to feed upon itself, and it may become impracticable to permit exchange rates to move without restraint.

IMPRATICABILITY OF RELYING EXCLUSIVELY UPON EXCHANGE RATE CHANGES TO PRODUCE EQUILIBRIUM

The above is not intended to argue that an inconvertible paper currency operates in the exchange market in a completely different manner than exchanges between two gold currencies. Short-sale operations in the gold exchanges may also develop excesses and feed on these excesses as frightened transfers of capital occur. We have noted, nevertheless, one peculiarity of the gold exchanges—that, after exchange rates have moved a little way, points are reached at which further changes are estopped for a time and gold movements begin. It is true that

worries may thence develop in respect to a nation's ability to continue to provide gold for foreign demands. But gold standard nations presumably maintain reserves of gold to meet just such withdrawals. During the period in which gold is being withdrawn sufficient opportunity may be provided the monetary authorities of the nation losing gold to survey the situation and take action designed to have the effect of restricting future gold withdrawals. Under the automatic gold standard, a currency whose foreign exchange value has fallen to the gold export point does not decline further until gold resources have been depleted or the country's willingness to make gold available on former terms is altered. In this breathing spell speculation for the decline is subdued.

Experience has shown that in countries in which gold redeemability has been definitely lost there cannot be complete dependence upon the corrections induced by fluctuations in foreign exchange rates alone. Such countries have learned that they must either provide themselves with some machinery to control exchange rates or at least put that portion of industry which needs foreign exchange under complete governmental control. When the former policy is favored we witness the creation of stabilization funds. As will be brought out later, the managers of these funds may make it their policy to acquire holdings of foreign exchange, or gold, during periods in which capital movements are heavily in favor of the country. Later on, when the capital movement becomes adverse, these foreign holdings may be made available to the country's necessitous industries so that severe exchange depreciation need not necessarily occur. The resources required to enable the fund to operate in the exchange market may come from several sources. The fund may be provided with government securities which it could sell in its own credit market. The proceeds of such sales could be used to acquire foreign exchange during the period of inflow of foreign capital. This procedure, we shall learn later,¹ was followed by Great Britain after 1932. In the United States, on the other hand, 1934 legislation gave the fund a portion of the profits resulting from writing up the dollar value of the Treasury's gold.²

¹ See below, pp. 337-342.

² See below, pp. 374-375.

The sensitivity of investors' fears, the widening marketability of investments, and the growing volume of liquid investment capital have thus made it unwise for any country to try to operate an inconvertible paper currency without reinforcing it with machinery the employment of which gives it some of the characteristics of a currency redeemable in a fixed amount of gold. This does not mean, of course, that the powers of the managers of stabilization funds are absolute. For them to try to stem the tide of necessary exchange adjustment by providing foreign exchange, or gold, might result merely in the exhaustion of their foreign exchange resources. The purpose of exchange control, therefore, is usually asserted to be that of controlling, not long-run, but short-run exchange fluctuations. If a stabilization fund is operated with skill and has succeeded in employing its concentrated resources to defeat recalcitrant short selling it may acquire, however, a reputation that makes its intention almost as important as its resources.

But no authority can permanently resist economic fundamentals and the necessity of adjusting exchange rates to these fundamentals. If we start from a situation in which the external foreign exchange value of a currency is in harmony with its internal value (domestic purchasing power), a continued relative internal currency depreciation must eventually be followed by a reduction in the foreign exchange value of the monetary unit.¹ With the qualifications noted above, it may thus be stated that the principal difference between the gold and the inconvertible paper currency exchanges lies in the fact that the corrective force of exchange rate changes is restricted in the former case (to limits defined by the cost of moving gold) whereas in the latter case exchanges may move within whatever limits are necessary to reestablish equilibrium between inward and outward payments.

"CORRECTIVE" FACTORS

Is it preferable to restrict rigidly, for a period of time at least, the degree of exchange depreciation a nation may experience, as is done under gold convertibility systems? The answer to this question obviously must turn on the relative advantages and disadvantages (in the case of the country with an adverse bal-

¹ Relatively high prices (that is, low purchasing power of the monetary unit) tend to restrict exports and to encourage imports.

ance of payment) of a reduction in its gold holdings as contrasted with a decline in the foreign exchange value of its currency. To be able to estimate the relative effects of these developments we must note first the possible influences of a loss of gold on the domestic economy.

If the loss is adjudged by the monetary authorities to be the result merely of temporary forces and if the banking system at the time of the emergency is possessed of a large amount of "excess" gold, the gold drain might be viewed with equanimity. But if, on the other hand, the country has been losing its power to export because of rising costs owing to the dilution of its currency, or to lagging technology and organizational efficiency, fundamental readjustments will be required. Relative to conditions in other countries, this country's advancing costs and prices must be checked. If this is not done the country will be driven off the gold standard. Through what machinery then can this (relative) downward adjustment of prices be propelled?

An exodus of gold must operate, of course, through the mechanism of the credit market. Since excess reserves will ordinarily be held largely in the country's central credit markets it will generally be from these markets that gold is first drained away. Perhaps, however, the country's central bank will find it feasible to counteract this loss of gold, and strive to prevent domestic credit contraction, even though gold continues to go out. In the problem at hand, however, we shall assume that the disequilibrium leading to a loss of gold is regarded as so serious that contraction will be encouraged or, at least, permitted to develop. To resist such a contraction would threaten the permanence of the gold standard.

What will be the effects of such an exodus of gold? The classical economists, Ricardo, Mill, and the rest, have often been interpreted so naively by economists who have lost familiarity with the original sources as to indict them to an undeserved extent as oversimplifying the problem. The moderns often assert that the classicists contended that the loss of gold from the country's central money markets would spontaneously and without much friction compel an appropriate downward movement in domestic costs and prices. But the problem is not this simple, as varied passages from the classicists themselves indicate. It must not be forgotten that it is usually the country's central money

markets that are first affected, and disturbances there have to be communicated to the rest of the economy by devious connections.

By what processes then can these contractionist influences which originate largely in the central credit markets be imparted to the whole economy? The answer would seem to lie largely in the effects on the country's capital industries. The developmental industries, as students of trade fluctuations well know, undergo greater cyclical fluctuations than the consumption goods and distributive industries; and to them interest rates are of relatively great importance. Expansions in the capital industries have been financed in high degree by bond issues, and the timing of bond flotations has been largely determined by advice given by investment bankers to whom a dominant consideration has generally been the ability of the banking system to take up new securities. A loss of gold in the centers of finance has thus had greater influence upon capital than on ordinary extensions of credit. A clamping down on the volume of new long-term security issues has been, in the past, the most significant result of a loss of gold. The effects of a gold outflow must therefore be analyzed largely from the point of view of the restraints it imposes on the country's developmental industries.

As lesser capital expenditures are made, wage payments tend to fall, as do also purchases of raw material and of finished equipment goods. In this way money incomes perhaps fall to a point at which even the volume of consumption is affected. In the course of time, therefore, prices of a wide variety of goods tend to fall. When a lower price level is reached, the country is able to produce goods for export at lower costs. At the same time its imports tend to lessen as a consequence of reduced ability to pay for its purchases from abroad. In these ways price deflation produced by the gold outflow operates to restore the international payment balance.

Such a deflation, of course, is a painful process. It is also difficult to accomplish speedily. Many prices are fixed for a time by contracts. Labor organizations normally resist reductions of money wages, at least until unemployment is considerable. Sellers' monopolies also may be sufficiently strong to oppose price reductions in particular fields for a prolonged period.

Deflation, as well as inflation, is, however, a relative matter. No more adjustment may be required than that credit expansion

in the gold-losing country shall be less than that which is occurring abroad. A gold-losing country might be able to restore its payment balance if it merely avoids further credit expansion during a period in which such expansion is continuing abroad.

Minor influences may also operate to mitigate either the gold outflow itself or its effects. Interest rates in the country's financial center may rise, and encourage the movement to it of idle funds held by foreign bankers. So also may high rates at home tend to weaken the prices of speculatively traded securities or commodities and thus induce buying abroad. But, as indicated above, these influences are not fundamental. When the price and cost structure of a country with a fixed gold currency gets out of line with that abroad, slow and painful deflation, initiated primarily as we have argued by an abatement of capital expansion projects, is the only real remedy; that is, if the object is to preserve the gold base of a nation's currency. This deflation has to overcome numerous obstacles before it becomes general.

THE QUESTION OF THE STANDARD, AGAIN

Shall we then conclude that the gold standard is not worth the candle and that by establishing an independent currency system, as any nation easily enough can, much travail could be avoided? This question is too far-reaching to warrant a categorical answer here. It is obvious, however, that much must depend on the importance to a nation of stable international trading conditions, such conditions as are promoted by giving investors and traders some assurance as to the future value, in terms of their own currency, of foreign credits. If more is to be gained by encouraging stable conditions in world trade and investment as a whole than by softening domestic maladjustments, the verdict would be against independently operated paper currency systems. A policy of trying to get a large share of a diminishing total world trade may be shortsighted.

It should be borne in mind at any rate that almost no modern nation has voluntarily accepted an unreinforced system of inconvertible paper. Nations driven off gold have been forced by sheer necessity either to adopt some system of exchange regulation or to submit to some more severe form of authoritative control. Completely flexible paper currencies have never proved acceptable in and of themselves.

The reader is warned in passing to be skeptical of analyses that assume the easy responsiveness of domestic prices to gold movements. A gold standard country losing gold may not witness any considerable decline in the relative prices of easily graded and transportable goods. The commodity speculator and arbitrageur will take care of this. If prices in country *A* should fall relative to those of *B* it would become increasingly profitable to buy in *A* and sell in *B*. Price disparities would tend to be confined largely to goods that do not easily enter into international trade, such as hot biscuits and services of domestic labor. But such prices in turn are influenced by the fact that in many instances they are substitutes or raw materials for the production of goods that do command relatively stable prices in the various markets of the gold standard world.

Another observation on the same general point is pertinent. On certain occasions prices in a particular country might be depressed more by a movement of gold, which, although seemingly favorable to the country concerned, contributes nevertheless to world price deflation. Elsewhere¹ the writer has argued that a good case for an interpretation of this character can be found during the decade of the twenties in the current century. During this decade wholesale commodity prices of the United States generally rose when gold left this country and fell when it was exported to us. This negative correlation between prices and gold holdings is the reverse of what naively interpreted classical doctrine would predict. But with foreign currencies then insufficiently supported by gold, a movement of gold to this country may have imparted an injurious influence upon world prices, and vice versa. Perhaps this country had a larger interest, so far as stability of its commodity price level was concerned, in the even distribution of gold throughout the world than it did in its own surplus holdings.

EXCHANGES BETWEEN A GOLD AND A PAPER CURRENCY AND BETWEEN GOLD AND SILVER CURRENCIES

The Am-Eng illustration at the beginning of this chapter assumed two paper currencies, each inconvertible in gold. How

¹ See Harold L. Reed, "Recent experience refutes classical doctrine of gold-price relationship," *New York Times Annalist*, Dec. 13, 1929, pp. 1147-1148.

would exchange rates be determined if one of these currencies is redeemable in a fixed amount of gold and the other is irredeemable? Reflection should show that this would not be a separate case, but that the Am-Eng analysis would apply to it. Despite the fact that one of the two currencies commands a fixed amount of gold, there would be no fixed par of exchange between the two currencies. Their exchange rates might fluctuate without limit in whatever direction would operate to equalize outward and inward payments.

What shall we say lastly about exchanges between gold and silver standard countries? Before the greater number of nations chose gold at the end of the nineteenth century we had many such cases, as for instance the rupee-sterling exchange prior to India's abandonment of the silver standard in 1893. This situation may be regarded as a hybrid case. At any one point of time there was a fixed par between these two currencies, the level of which was fixed by the gold value of the silver in the rupee. But changes in the gold value of silver would occur from time to time so that the fluctuations within the range fixed by costs of shipping silver to London were about a "moving" par.

CHAPTER IX

FOREIGN EXCHANGE PRACTICES

LIMITATIONS ON THE USE OF OPEN BOOK ACCOUNTS IN FOREIGN TRADE

It is not the purpose of this chapter to provide a complete explanation of specific foreign trade and foreign exchange practices. Some factual information is required, however, either to facilitate understanding of basic principles or to lessen the necessity of introducing detailed references in later chapters.

In domestic trade we are more familiar with the open book account than with any other instrument of credit. The uninitiated might assume, therefore, that the book account would be used to an equal extent in foreign trade. Under this method our importers would be consigned goods, but no negotiable instruments would arise at the time of shipment. Later on importers would be expected to remit to the foreign sellers by purchasing from banks the required exchange.

The open book account can be thus employed in foreign trade and, in recent years, has undoubtedly been more extensively used than most of the textbooks admit. Nevertheless, even in domestic trade the open book account possesses certain unsatisfactory features. When trade involves added risks as distance is increased and different currencies are involved it is more important to avoid the bad features of this method of financing trade.

The basic difficulty with the open account is that the buyer's obligation to pay is not represented by a negotiable instrument which the seller can discount or turn over to his bank for collection. The time of payment is not definite, and largely as a consequence of this fact the buyer may be tempted to purchase recklessly. When this occurs the seller experiences increased difficulties of collection, and his own paper becomes an inferior asset in bank portfolios. It may also come about that the volume of the seller's paper that is offered banks bears no immediate relation to the quantity of goods moving into trade.

TRADE PAPER IN DOMESTIC AND FOREIGN COMMERCE

All these defects, and others too, of the open book account were understood by the framers of the Federal Reserve Act in 1913. In a variety of ways these legislators sought to encourage the substitution for the open account of negotiable instruments with definite maturity dates and specifically related to particular transactions. In this effort to improve trade credit practices the lawmakers were aware of the fact that, prior to the Civil War, the use of trade paper had been the rule rather than the exception in a large segment of trade.

The reasons for the limited degree of success that accompanied these efforts to revive the use of trade paper after 1913 cannot here be enumerated. It may be mentioned, however, that in years immediately following 1914 proponents of trade paper found buyers generally unwilling to give up the use of the open account. Sellers, therefore, could not be induced to demand trade paper to any large extent except from the poorer accounts. About 1920, moreover, there developed a tendency in many circles to regard trade paper as good even though the drawee's condition had not been thoroughly analyzed. Too much attention, in other words, was paid to the "form" of the paper. When it became clear after the "inventory" depression of 1920 that trade paper enthusiasm had been overdone and had encouraged overbuying, the use of this credit instrument was bound to be subdued. This is also among the reasons why the open book account is employed to a much greater relative extent in domestic than in foreign trade.

TRADE PAPER MIGHT BE IN THE FORM OF A NOTE

Trade paper need not be in the form of a draft drawn by a seller against the buyer. The instrument might be a note given by the buyer to the seller for the amount of the indebtedness created by the sale of goods. It was "note" trade paper that was common in the domestic trade of the United States prior to the Civil War. Buyers would visit factories several times a year, order goods from stock, and give their notes for the required sums.

Our Federal reserve officials after 1914 understood, however, that it would be difficult to revive the use of the note type of trade paper. The buyer's initiative would be required to bring it into

being. It seemed preferable to work along the lines of having the seller draw the instrument in the form of an order or a draft against the buyer. Banks which handled this draft for the seller could be instructed to require legal acknowledgment of the buyer's obligation, or cash, before the buyer would be given the shipping documents necessary to acquire the goods. This admission of the validity of the transaction giving rise to the shipment might be expressed by the buyer's writing "accepted" with his signature and date across the face of the draft.

THE TRADE ACCEPTANCE

A seller's draft drawn in the form necessary to ensure negotiability and in accord with certain technical legal requirements is the bill of exchange. It is a draft drawn on account of the shipment of goods by the seller instructing the buyer to pay a specified sum to a third party, or even to himself. When the payee is "ourselves" the instrument must be endorsed by the drawer, or otherwise made negotiable, to permit its widest use.

Historians have been highly interested in the circumstances that gave rise to the bill of exchange. In these discussions of origin they point out its usefulness in turbulent periods as a means of avoiding the dangers and risks of currency shipments. A in London might be obligated to B in Holland. At the same time A might be shipping goods to the Dutch trader C. A could discharge his debt to B by instructing C to pay B. The document on which this instruction was written was the forerunner of our bill of exchange.¹

THE BANKER'S ACCEPTANCE

Trade drafts, or bills, thus represent drawings of sellers against buyers. But in foreign trade it is common to substitute a bank for the purchaser of the goods as the drawee. Time drafts against a buyer in another country will not be likely to command as large a sum when discounted as if a foreign bank of recognized

¹ Compare the following from Walter Scott, *Ivanhoe*: "In the town of Leicester all men know the rich Jew Kirjath Jairam of Lombardy; give him this scroll—he hath on sale six Milan harnesses, the worst would suit a crowned head—ten goodly steeds, the worst might mount a king, were he to do battle for his throne."

I have been informed that Scott's history was inaccurate in that the Jews of *Ivanhoe*'s time were prohibited from owning armor.

standing should agree to pay at the date of maturity. (Discounting refers to the determination of the present value of a sum collectible in the future.) It was inevitable that the custom should develop whereby banks, or even merchants of the highest standing would accept drafts for the benefit of their trade customers. The acceptor would receive a commission from the beneficiary for rendering this service and assuming the risk of nonpayment of "cover."

The instrument by which an importer assures the exporter, and through it the exporter's bank, that such drafts will be accepted by a foreign bank is the letter of credit. The time involved in mailing this instrument to the exporter may be avoided by having the importer's bank notify the exporter's bank by cable that a credit has been opened up against which the exporter's draft drawn on account of the shipment will be honored.

Prior to the Federal Reserve Act national banks of the United States were not authorized to "accept" such drafts. The lack of this power by our banks was one of the reasons why the pound sterling, instead of the dollar, was often used as the medium of payment even in transactions in which the export did not originate in Great Britain. In such cases our importer would usually arrange through his New York bank to have a credit opened by a British house against which the exporter's drafts could be drawn. Such drafts would be drawn in the currency of the acceptor, that is, pounds when the drawee was a London acceptance house. Our importer would later be required to remit the sterling cover. In the period prior to the date the cover must be provided the dollar price of sterling might have increased. In this event the completion of the transaction would be a little more expensive than if the exporter had drawn against a New York credit. To remove this risk from American importers, as well as to divert the income from acceptance fees to New York, the Federal Reserve Act of 1913 conveyed powers to national banks to accept drafts arising out of the exportation or importation of goods. Later amendments to the Federal Reserve Act widened the purposes for which national banks could accept.¹

At the present time, therefore, foreign exporters may draw their bills against American banks which open up credits in favor of importers. But such credits may also be opened up by our

¹ See Appendix, Chap. IX, Note I.

banks for the benefit of the exporter. Under this latter arrangement a New York firm exporting to Honduras might draw a trade draft against the Honduras importer and turn it over to a New York bank for collection. Against this bank the exporter might draw another bill maturing perhaps at the same time as the afore-mentioned trade draft. This bank draft, when accepted, could be discounted in the New York market at a low rate of interest. Collection of the trade draft would provide the accepting New York bank with the "cover" out of which the bank acceptance could be paid at maturity.

When a bank opens up a credit for the benefit of an importer, as in the first illustration, it is customary to describe it by the term "import credit." In the latter illustration, however, the New York bank accepts for the benefit of a New York exporter. The credit against which this draft is drawn may be termed an export credit because the beneficiary is the exporter. Either type of credit simply refers to the amount of drawings banks agree to accept for the benefit of their customers. In bank statements an item may appear on the liability side reading "acceptances," or "acceptance liabilities." Corresponding roughly to the amount of this liability there will usually appear on the asset side the item "customers' acceptance liability."

A bank acceptance is thus an obligation of a bank to meet what otherwise would be an obligation of a customer. It accomplishes the same purpose as could be, and sometimes is, performed in a more cumbersome way simply by having the bank endorse the obligation of a customer. The bank acceptance may be regarded, therefore, as a means of substituting the superior credit of the bank for the inferior credit of the customer.

The bank acceptance is not a loan. In the transactions cited the accepting bank is not out currency unless some hitch develops in providing it with cover. To ensure that the forthcoming cover will be provided our law confines acceptances¹ to transactions growing out of the movement of goods or involving the storage of readily marketable staples. Other restrictions are imposed by statute against the overuse of bank acceptance powers.² Such restrictions are mainly necessary to keep particular banks' financing powers in some reasonable relationship to their resources. In the case of loans, deposit credits are set up which require a

¹ Except for the purpose of "creating dollar exchange."

² See Appendix, Chap. IX, Note I. *

reserve. Legal reserve requirements do not apply, however, to acceptance credits. Other controls, therefore, are required in the case of acceptance credits.

DOCUMENTS AND BILLS EMPLOYED IN FOREIGN TRADE

A large part of the explanation of existing methods of financing foreign trade is therefore to be found in the necessity of protecting against loss the banks which assume obligations that otherwise would have to be directly imposed upon the parties to the underlying transaction. Negotiable bills of lading, "order bills," are usually attached to the exporter's bill, and the foreign correspondent of the American bank may be instructed to refuse to release the bill of lading to the importer unless satisfactory arrangements are made to guarantee payment. The hypothecation certificate may also be attached to the exporter's bill. This document conveys to the banker the right to employ the bill of lading to acquire, if necessary, the goods and to apply the proceeds of their sale against any funds the bank may have advanced. (In the event the bill was discounted by the exporter the discounting bank has advanced funds.) Losses finally resulting may be made to rest on the exporter. The financial standing of the exporting firm is thus a factor bearing upon the rate at which banks will discount exporters' bills.

In the event the transaction is handled under the open account method the buyer is expected to remit within the customary or stipulated period. Importers then find it necessary to purchase a banker's bill, as distinguished from the commercial bill which arises when the exporter's draft is discounted or accepted for collection. Such banker's bills need not be "demand" checks. A time bill may suffice. Long bills may on occasion be a more economical form of remittance than a demand check even though a debt has shortly to be paid. Long bills may be discounted at the rate of interest prevailing in the foreign market, and the credits thereby acquired may be employed to discharge a current debt. When the rate at which such bills can be discounted is low the demand for long bills is increased and the "spread" between short and long bankers' bills is lessened.

SPECULATION IN FOREIGN EXCHANGE RATES. FINANCE BILLS

Like everything else that fluctuates in price, foreign exchange has aroused the interest of professional speculators. On occa-

sion, however, a "short" or a "long" position may develop somewhat naturally out of a related business transaction and is unintended in the sense that it would not have been assumed in the absence of the underlying transaction. Importers may buy goods on time and in the meanwhile the price of the currency stipulated for payment may increase or decrease. When there is considerable uncertainty as to the future course of the exchanges, importers may find it advisable to make contracts with foreign exchange brokers so that they will be given a definite quote on the necessary "forward" exchange. In this case, exchange risks are assumed by a specialized group.

One of the simplest ways of going short in the exchanges is to borrow funds abroad and use the proceeds at home. Borrowings in a foreign center undertaken for the purpose of acquiring funds to purchase securities involve two distinct speculative elements. There is in the first place the question of the future market course of the security that is purchased. Second, the profitability of the transaction will depend on the amount of domestic currency that will be received in exchange for the foreign currency in which interest, dividends, or principal repayments will be remitted.

A type of foreign exchange speculation that received much attention in the old days of fixed gold pars was the "finance bill" operation. This was a transaction in which, with permission, a long bill was drawn against a foreign house and sold in the exchange market so that the proceeds could be loaned at interest in the domestic credit market. Shortly before the maturity of this long bill, short exchange could be purchased (cables or demand checks) to set up at the foreign accepting house the funds out of which the maturing long bill could be paid. The greater the dollar proceeds realized in selling the long bill, the higher the rate of interest in the domestic loan market, and the lower the cost of the covering demand check or cable, the larger would be the profits on the transaction. On the other hand, the gain would be reduced or a positive loss encountered if the long bill should sell at a lower price (in terms of domestic currency) or if the proceeds were loaned at a lower rate in the domestic loan market and if the cover should be more costly.

There should be nothing mysterious about such a transaction as it has any number of domestic parallels. The inherent character of the transaction would not differ much, except insofar as

over a period of time the price of sterling should vary, from a transaction in which a borrower would give a three months' note to a bank, loan the proceeds for that period, and discharge the note before maturity. Such a borrower would be just as "short" bank credit prior to the payment of the note as the exchange operator is short sterling prior to the remission of cover. If, however, attention is to be focused on the gains or losses encountered in providing the cover, reference could be made to a tailor who contracts to deliver his customer a suit before he has supplied himself with the necessary cloth. If the cloth should fall in price the tailor would gain.

Despite its simplicity, however, most textbook explanations of this operation have not been distinguished for their clarity. To begin with, they have not generally made it clear why a special designation is required for the long bill, the bill drawn and sold at the beginning of the transaction. The reason for the use of the term "finance bill" would seem to lie in its function. In form and appearance the finance long bill could not be distinguished from any other banker's bill. But for purposes of analyzing the source of supply it makes a lot of difference whether the drawers are merely transferring already possessed sterling credits home, or whether they are permitted to draw such bills against their foreign correspondents merely on their promise to provide "cover" at or before maturity of the bill that is drawn. There is a limit to the supply of the former class of bills that may come on the market, while the only restriction upon finance bills is the willingness of the American operator to draw them, of the foreign drawee to accept them, and of some other party to purchase them. To express it otherwise, long finance bills bring on the market a "fictitious" supply.

But what difference does all this make? In the case of domestic short sales of securities market analysts understand the necessity of distinguishing between sales by those who have and sales by those who must later purchase what they have obligated themselves to deliver. They know that overdone short selling of any commodity brings onto the market an artificial supply and tends to lower market prices for the time being. Later on, however, purchases by the shorts to cover their commitments increase the demand and tend to lift prices. There is no way of avoiding the purchase of the cover except a continuance of a

short position. This, however, merely postpones the final purchase. On many a day the reader of the financial section of a newspaper may come across some such statement as the following: "The source of the market's strength lay in the enforced buying of shorts striving to cover their commitments." It thus makes a lot of difference whether the selling originates from the longs or from the shorts.

Market analysis therefore requires that a distinction be made between the supply that originates from those who have and the supply that emanates from short sellers. To emphasize this distinction in the foreign exchange field, long bills drawn merely with the permission of the foreign drawee have been given a special term. But there is nothing in the form of a finance long bill to distinguish it from other long bills.

A finance bill operation is thus pure speculation. But, under conditions of confidence in the maintenance of a fixed par of exchange between the two currencies involved, it is a "pretty" kind of speculation. Say that the sterling-dollar export point is \$4.88 and the import point is \$4.84. If exchange rates for the bills in question approach \$4.88 there is some assurance that rates will go no higher. Beyond \$4.88 gold would be exported. There is only one way the pound may thenceforth move, and that is downward. On the other hand, a rate closer to \$4.84 would indicate the drawing of long finance bills to be a dangerous operation.

Many textbook explanations of the "social" value of finance bills have involved so much confusion as to justify the student's inability to think through the operations clearly. It has frequently been pointed out that, prior to the inauguration of the Federal Reserve System, their sale assisted American banks to finance the farmer's planting operations in the spring and the harvesting of crops in the fall. As banks in the interior were called upon to provide pay-roll currency to their farmer customers, their reserves would tend to run down. To restore these reserves the interior banks would withdraw balances from city correspondents, thus communicating the pinch to the financial centers. To ease the situation banks in the financial centers might be led to draw finance long bills and sell them in the domestic market. In this way it would be implied that these finance bill operations eased the strain on the American credit markets.

In reading such passages, however, it is not always made sufficiently clear that the writer is thinking about the assistance rendered to a particular bank, rather than to the banks as a system. For *A* to sell a bill to *B* does not increase the reserves of both. What *A* gets, *B* gives up. There are special circumstances, however, in which such operations might contribute to a slight easing of credit conditions in our financial centers.¹

The only significant way the banking system as a whole could acquire more reserves by such operations would be for gold to be imported from abroad. But such finance bill sales would in themselves do nothing to attract Europe's gold. As indicated previously, furthermore, they would most likely be sold when sterling was near \$4.88 instead of around \$4.84, the assumed gold import point.

In a negative way, however, finance bill sales might ease the domestic credit market. Without such finance bill sales, sterling exchange rates, for instance, might perhaps go to the point at which gold would be exported.¹ Exports of gold, under conditions of no excess bank reserves, would tend to compel a several-fold contraction in the outstanding volume of bank credit. Finance bill sales might thus keep exchange rates from moving to the point at which gold would be drained away and in this way lessen tenseness in our credit markets. But it is one thing to restrict an outflow of gold, and another to produce an inflow.

In recent years in which fixed gold parities have been abandoned much of the above explanation does not apply. Speculation in the exchanges must now proceed with less assurance that wide fluctuations in exchange rates will not occur. From a short-time point of view the most important consideration is the attitude of the exchange control authorities. From a longer term viewpoint, the dominant consideration is perhaps opinion whether the foreign exchange value of particular currencies is being maintained at levels higher or lower than their present or anticipated purchasing power warrants. Private exchange operations are now generally subject, moreover, to more arbitrary restrictions and prohibitions than formerly prevailed. But we are not yet prepared to enter into a discussion of exchange operations under existing methods of control.

¹ See Appendix, Chap. IX, Note II.

The finance bill has here been discussed at greater length perhaps than its current importance warrants. But its analysis provides a fine opportunity to exercise discriminating judgment. Only the student who is thorough and questioning, who, in other words, thinks for himself, can get far in the study of foreign exchange. For one thing, he is subjected to opinion emanating from those who have an interest in particular institutions only and who have not been trained to analyze operations from the standpoint of effects on the whole banking system.

ARBITRAGE IN THE FOREIGN EXCHANGES

Unlike finance bill operations, which depend for their success upon skill in predicting exchange rate changes through time, certain other practices are designed to take account of spatial inconsistencies in rates. Here we are entering upon the theoretically simple, but practically exacting, problem of arbitrage. The simplest case of arbitrage is "two-point" arbitrage. Suppose cable rates in New York against London are \$4.86 $\frac{1}{8}$. A cable in New York of £100,000 could then be sold to net \$486,125. The London correspondent who provides this £100,000 will have to be reimbursed this amount. Assume the cable rate in London on New York to be \$4.86. The London correspondent could then be instructed to sell a cable for \$486,000 against New York and thus realize £100,000. The profit on the transaction would be \$125, less expenses.

The next most simple case is three-point arbitrage. Say that either francs are cheap in New York, or francs in London can be converted (either by drawings in London on Paris or purchases of sterling in Paris) into a larger sterling sum than could be realized by direct purchases of sterling in New York. Profits could be realized under these conditions by converting dollars into pounds via Paris, and selling against London in New York. Three-point arbitrage is thus a process of drawing against accounts established abroad in a roundabout manner.

Simple routes of operation of the kind described above would, of course, be discovered so quickly by other arbitragers that the conditions which make the profits possible would be expected to disappear almost immediately. In the above-outlined operation the purchase of pounds in Paris would shortly increase the cost of establishing sterling credits in London by this roundabout route.

On the other hand, the sale of sterling exchange in New York would tend to depress its price in that market. Either one or the other of these operations or both would tend to bring exchange rates into line and thus destroy the conditions conducive to profitable arbitrage. It may thus be said that it is a function of arbitraging to destroy spatial rate inconsistencies.¹

More devious and less familiar routes will thus have to be investigated by the skillful arbitrager. A part of the arbitrager's equipment consists in his ability to supply himself quickly with information about exchange rate changes and to be able to make the necessary calculations quickly.

REFERENCES

To familiarize oneself with foreign exchange principles and practice prior to the development of modern agencies of exchange control it is probably best to utilize earlier works. Standard works on foreign exchange that may be consulted in reference to the determination of exchange rates between currencies of fixed gold conversion values are:

- GEORGE CLARE and NORMAN CRUMP, *The ABC of the Foreign Exchanges*.
IRA B. CROSS, *Domestic and Foreign Exchange*.
FRANKLIN ESCHER, *Foreign Exchange Explained*.
EDGAR S. FURNISS, *Foreign Exchange*.
ANTHONY W. MARGAFF, *International Exchange, the Financing Mechanism of International Commerce*.

For analyses of the determination of exchange rates between currencies, at least one of which is inconvertible paper, consult, in addition to appropriate passages in the preceding:

- R. G. HAWTREY, *Currency and Credit*, Chap. IV.
JACOB VINER, *Studies in the Theory of International Trade*.

For a work dealing specifically with the silver exchanges see:

- W. F. SPALDING, *Eastern Exchanges, Currency and Finance*.

On arbitrage consult:

- S. S. HUEBNER, "Arbitrage," *Encyclopaedia of the Social Sciences*, Vol. II, pp. 150-151.

¹ The above illustration assumes an out-of-alignment of exchanges at a particular time. Arbitrage may be undertaken, however, merely in response to the expectation that a later change in relative rates will occur. Francs may be purchased in New York out of the proceeds of sales of pounds in the hope that in the near future francs will purchase more pounds.

CHAPTER X

THE TRIUMPH OF THE GOLD STANDARD IN THE NINETEENTH CENTURY

THE GOLD STANDARD LARGELY A PRODUCT OF THE NINETEENTH CENTURY

From a monetary point of view the most significant development of the nineteenth century was the well-nigh universal acceptance of the gold standard. While some important countries were unable to adopt or operate a gold standard system successfully, not many of them envisaged a rival system as a desirable monetary objective. Eventually other monetary systems came into vogue, but merely because of the expense and difficulty of effecting the transition to the gold standard.

The triumph of gold was historically a remarkable phenomenon because it occurred in opposition to general intentions and also because gold monometallism had behind it no compelling historical precedent. Carlile has remarked¹ that "the modern system of gold monometallism with silver as manifest subsidiary money did not establish itself anywhere in the world before the beginning of the eighteenth century." At the beginning of the nineteenth century there was no intent to adopt the single gold standard in England, in France, or in the United States.

The particular historical events that led to the triumph of gold are not as significant as more general forces. As a matter of fact many of the "accidents of history" operated against gold just as, on the other hand, some contributed to its acceptance. Let us begin our discussion then by listing the possible rivals to gold at the beginning of the nineteenth century and as of this date conjecture on their fate.

WHY "PARALLEL" CURRENCIES BECOME "BIMETALLIC"

We ought not to expect to find "parallel" currencies in other than sporadic instances. The simultaneous circulation of two

¹ *The Evolution of Modern Money*, p. 136.

different currencies with no collecting link between them could not be expected to persist. As a matter of fact, it would be difficult for a modern society to avoid action which in some way or other would tie two such currencies together. A currency that would not be accepted by the state in payment of taxes would be handicapped as a circulating medium. So also would a medium not generally accepted by private traders. If the relative value of the two currencies should come to be even indirectly established we should expect a substantially similar coinage ratio to be recognized in mint provisions. If coinage statutes should be "unfair" to one of the metals, that metal would tend not to be coined and would not enter the monetary circulation. This would not be an acceptable condition in an age in which dominant mercantilism preached the virtues of a large metallic currency. General preference would be expected to be in favor of a mint policy of converting both metals into coins bearing the same name and, for similar denominations, having the same debt-discharging power. This would be bimetallism.

TENDENCY OF THE CIRCULATING METAL TO BECOME SUBORDINATED

A bimetallic system we should expect therefore to prevail unless particular events should indicate to men the desirability, as well as the feasibility, of reducing the coins of one of the metals to a subsidiary status. Gold could not very well triumph as the single and preferred standard until men came to understand that silver, as well as copper and nickel, coins could be kept in circulation by the device of reducing their metallic content below their face value and restricting their supply to the needs of trade. Until either the rationalistic decisions of men or the accidents of history should indicate how this could be done we should expect bimetallism to be regarded as the best means of maintaining a concurrent circulation of gold and silver coins.

If the resulting systems were efficiently operated we should anticipate that the bimetallic system would prevail and continue if for no other reason than that it would have behind it the weight of tradition. In monetary matters tradition is very nearly the same thing as prestige. Then, again, a system of giving unlimited coinage rights to holders of silver as well as of gold would create vested interests which it would be hard to destroy. Bimetallism

once firmly established would be expected to persist unless serious errors in monetary administration should develop. As a matter of history it did in fact turn out that the failure of men to understand the principles of bimetallism played a large part in its eventual abandonment.

Bimetallism, however, benefited at first from the confusion in men's thinking between the concepts of money and of currency. Men did not understand clearly how one element could be employed as a means of expressing pecuniary values and another used to discharge debts stated in terms of this money of account. Since it is still customary, however, for economists to define money as the common medium of exchange, even though such a definition destroys the distinction between "money" and "currency" and "bank credit," we may forgive our predecessors on this account. But this charity to monetary thinkers should not blind us to the fact that an abundance of historical illustrations were at hand to emphasize the distinction.¹

Despite the general inclination of nations, before the beginning of the last century, to regard bimetallism as an essential device to keep both metals in concurrent circulation, technical facts were constantly demonstrating the distinction between currency and the measure of pecuniary obligations. In the days prior to the development of the modern technique of coinage, with alloys inadequate, milling of the edges undevised, and the stamp less permanent, the circulating currency was constantly being debased. Clipping was common. To quote from a letter of the quartermaster general of the American Confederation, Timothy Pickering, about to pay a portion of the French subsidy in coin: "I must trouble you for the necessary apparatus for clipping. It's a shameful business and an unreasonable hardship on a public officer. . . . A pair of good shears, a couple of punches, and a leaden anvil of two or three pounds weight. Will you inquire how the goldsmiths put in their plugs?"²

This constant debasement of the currency in circulation operated more against silver than against gold as the accepted standard of pecuniary value. Gold coins are too large for the majority of transactions so that it would be in the silver realm that debasement and loss of prestige would largely occur. But until the

¹ See above, pp. 8-9.

² Cited in Albert B. Hart, *Formation of the Union, 1750-1829*, p. 111.

principles of subsidiary currency came to be understood the positive subordination of silver, under mint regulations, would not be expected.

SUBORDINATION OF SILVER IN ENGLAND

With these general comments before us we may now refer to a few historical developments of the last century. Let us turn our attention to England first.

From 1717 to 1785 practically no silver had been coined in England. The explanation of this fact was to be found in a mint ratio unfavorable to silver. The gold guinea was fixed at 21 shillings; and the silver required to coin shillings was such that at the mints gold had a ratio to silver of 15.21 to 1. Under these conditions it may be asked why all the silver in circulation did not go abroad¹ or find its way to the melting pot. But the complete loss of silver coins was avoided by their underweightness due to constant clipping and abrasion. By the Act of 1774, therefore, silver coins were deprived of legal tender power in transactions above £25. Above this figure silver would pass current only by weight. Silver coins were thus relegated without intention to the status of a subsidiary currency just as effectively as if their metallic content had been deliberately reduced and their supply restricted.²

At the close of the century, however, the situation changed, and there developed the opposite danger emanating from abroad that a flood of silver would enter the domestic circulation and perhaps drive out gold. With the French Revolution came the paper assignats which immediately began a course of depreciation. By 1794 the assignats had driven most of the French gold and silver abroad or into the melting pot. In England the greatest danger lay in the incursion of silver³ since this was the metal which at current market prices was most highly undervalued in the French coinage. In 1798 an English statute was somewhat hurriedly passed suspending the free coinage of silver and repeating the restriction on its legal tender power which had been in force from 1774 to 1783.

¹ The ratio of 14.5 to 1 then prevailed in France.

² See R. G. Hawtrey, *Currency and Credit*, Chap. XVIII.

³ Since 1785, the French mint ratio had been 15½ to 1.

This act of 1798 was meant, however, to be purely temporary. It went further in restricting silver coinage than was intended in a period in which men did not generally understand the process of the reduction of silver to a subsidiary coinage that had been going on for many years. Legislation enacted in 1816 accordingly removed the prohibition against the coinage of silver. But since the danger still existed that an excessive amount of silver coinage might take place it was provided that the silver coinage provisions should not become effective until after a day to be fixed by a Royal Proclamation.

Such a proclamation was never issued, and the Coinage Act of 1870 made no reference to the purchase price of silver. Silver coins were thus reduced to the status of a subsidiary currency, circulating at a face value above that of their metallic content by the device of restricting their supply. Throughout the century England gave little encouragement to the arch rival of gold, bimetallism. It did not become a member of the bimetallic system, the Latin Union. In the latter decades of the nineteenth century England turned a deaf ear to delegates from the United States, India, and other countries, many of whom argued that a general support of bimetallism at a uniform mint ratio was required to reduce disturbances to international trade and investment occasioned by the continued decline in the gold value of silver. A large part of the policy of its developing central bank, the Bank of England, becomes that of maintaining the country's currency and credit on a solid foundation of gold.

To what shall we attribute England's adherence to gold monometallism as the nineteenth century unfolded? As indicated before, the main point seems to be the course of events which created the same conditions as if the distinction between the standard of pecuniary value and the instruments of circulation which represent it had been understood. A depreciation and, thence, a limitation of the supply of the silver currency was first necessary; and, subsequently, the preferment for the more valuable and stable gold in international transactions. But the depreciation of silver coins was not entirely accidental. Coins of the cheaper metal were more largely employed as circulating currency and were more subject therefore to clipping and abrasion.

THE ABANDONMENT OF BIMETALLIC RESOLVES IN THE UNITED STATES

Elsewhere in the world, however, the intent to operate bimetallic systems was more resolute than in England. Other peoples were more inclined to accept logical theories than the British and less willing to obey mere expediency. But in these countries bimetallism failed largely because its basic principle, the doctrine of "compensatory flows," was insufficiently understood at the beginning of the century. This doctrine is required to rebut the contention that chance fluctuations in the relative supply and demand for the two metals will alternate the circulation between silver and gold. The bimetallist here argues that if enough countries join the bimetallic system and at the same ratio, the coinage of the metal cheapening as bullion will quickly restrict its tendency to fall in value. The monetary absorption of the cheaper metal will lessen the quantity that otherwise would be required to find a commercial use. Adherents of this doctrine contend, on the other hand, that the metal rising in bullion value will go largely into commercial uses. Coins composed of the dearer metal will also tend to leave the circulation and be melted into bullion. Bimetallism should thus operate to reduce the bullion supply of the cheapening metal and increase the bullion supply of the appreciating metal and thus tend to prevent a deviation between the ratio of silver to gold at the mints and in the commercial markets. But in order that this "compensatory principle" operate with maximum power it is necessary that as many countries as possible be bimetallic and adopt the same mint ratio. If this is not done the monetary circulations may not absorb enough of the cheapening metal to keep its market value in the same ratio to the other metal as that fixed at the mints. This basic principle of bimetallism, as argued, was insufficiently understood.

The United States, the first modern country to legislate in behalf of bimetallism, provided for the coinage of both metals in 1792 at the ratio of 15 to 1. It is doubtful, however, whether Alexander Hamilton, who recommended this legislation, understood the compensatory principle. He seems to have been influenced merely by the opinion that bimetallism would enable the country to achieve a larger circulation than would mono-

metallism, and that it would provide coins for all types of transactions, silver for the small, gold for the large. An understanding of two matters might have destroyed his and Congress' faith in bimetallism. The first was the fact that bimetallism would not necessarily produce a larger circulation than monometallism. A mint ratio that does not encourage the coinage of one of the metals, as the act of 1792 did not encourage gold coinage, would produce a currency system no better in this respect than monometallism. The second lapse of understanding, however, was the previously stated matter of the failure to see that underweight silver coins and paper could be kept in circulation without danger if their supply were sufficiently restricted.

THE DOWNFALL OF EFFECTIVE BIMETALLISM IN THE LATIN UNION

If, however, the American Congress in 1792 had adopted the French mint ratio of $15\frac{1}{2}$ to 1 bimetallism might have become dominant. The same result might also have been achieved if France had accepted 15 to 1. From the point of view of the size of its monetary circulations France was the most important nation in the world early in the century and the United States gained this position during the century. As it was, however, the French ratio was accepted in 1865 by the Latin Union (France, Belgium, Italy, and Switzerland). In 1866 the Papal States joined this union, as did Greece and Rumania in 1867. The effect even of this union, however, was such as to hook the bullion values of silver and gold close to the mint ratio of $15\frac{1}{2}$ to 1. Prior to the gold discoveries toward the middle of the century in Australia and California, the monetary demand for silver prevented any serious decline in its market value. Thereafter, for a decade or so, the Latin Union's absorption of gold operated to hold up the market value of gold. If the United States had joined this bimetallic union, as it easily could have, the bimetallic system might have gained sufficient additional prestige to make improbable the transition of Germany in the early seventies to the gold standard. Neither would it have been likely that India, a vast absorber of the precious metals, would have found it necessary to pass from the silver standard to the gold standard in the last decade of the century.

FURTHER EPISODES IN AMERICAN BIMETALLIC HISTORY

The downfall of bimetallism must therefore be ascribed largely to the failure of men prejudiced in its behalf to understand its basic theory. But chance events, also, handicapped the successful operation of bimetallism. If in 1792 the United States had overvalued gold instead of silver, as it might, the country's currency would have been in better order, and bimetallism would have commanded more support. Silver was coined into dollars in large quantities prior to 1806. But money dealers saw opportunities to transport this relatively light-weight dollar to certain of the Spanish West Indies to be exchanged for a heavier Spanish dollar of earlier mintage. To stop this practice President Jefferson issued a proclamation in 1806 closing the mints to the coinage of silver dollars. Thereafter silver coinage was confined to the smaller denominations, and Congress found it necessary to endow various forms of foreign currency with the legal tender quality.

Yet another unpredictable event was to occur to hinder effective support of bimetallism by this country. Gold discoveries in the Carolinas and other southern states in the decade of the twenties created a demand that the gold industry be encouraged by monetary legislation. Partly, although not solely, on this account, Congress reduced the weight of the gold dollar from $24\frac{3}{4}$ to 23.22 grains in 1837.¹ The coinage ratio was now approximately 16 to 1 and favored gold coinage more than did the French ratio $15\frac{1}{2}$ to 1. This discouragement of silver coinage operated unfavorably from the standpoint of the country's requirements for subsidiary silver. But the country was coming to understand how to provide subsidiary currency without coining it at the mints on private account. Thus the act of 1853.

Slowness in perceiving that the subsidiary currency principle could be applied to the silver dollar as well as to the lesser coins stayed the nominal abandonment of bimetallism, however, until 1873. In that year the silver dollar was removed from the list of authorized coins. In the writer's opinion this act in no way deserves the opprobrious title given to it in popular discussion, the Crime of '73.² It was merely an acceptance of the existing

¹ The act of 1834 had reduced the content of the gold dollar to 23.2 grains.

² See Appendix, Chap. V, Note II.

state of affairs. Free and unlimited coinage of silver is not required either for smaller denominations or for the larger. If the dollar denomination of silver had been regarded as necessary, provision could have been made for various forms of paper currency. Dimly but surely the country was learning the distinction between the unit of account and the instruments that represent it in circulation.

In the bimetallic political controversies from 1873 to 1896 much of the lessons of earlier experience seems to have been forgotten. But the renewed demand for a return to bimetallism at the old ratio was largely a consequence of the Civil War and of the depreciation of the greenbacks prior to 1879. The decline in commodity prices after the Civil War and the resulting injuries imposed upon debtors paved the way for an inflation party. First, aggrieved elements pressed for inflation via greenback issues in time of peace. But general repugnance to government paper issues, a repugnance strengthened by recollection of the eventual fate of John Law's currency, of the assignat, and of the ill-fated continental currency, created a hard task for the inflationists despite the admitted popular unrest. It was logical therefore that the greenback party should be merged into that demanding a restoration of bimetallism. The contention that all that was needed was a restoration of the earlier status was plausible. Fundamentally, however, the bimetallic argument was a complete perversion of the facts of this country's monetary development. Subsidiary currency can be provided without admitting silver to free coinage at the mints. That silver could be safely used as a currency provided its circulation is restricted was what the country more or less ignorantly decreed in 1896.

The silver purchase acts of 1878 and 1890¹ were bad currency statutes primarily for this reason. They provided for the injection of quantities of silver currency into circulation without regard to the requirements of trade. Subsidiary currency must be restricted if the monetary standard it represents is to be preserved.

LATER ARGUMENTS FOR BIMETALLISM

Thus far the bimetallic question has been discussed from the standpoint of the principal contention of its original supporters,

¹ The Bland-Allison Act of 1878 and the Sherman Act of 1890.

how to provide an ample circulating medium. With growing understanding that this could be done without bimetallism, the case for the double standard became increasingly dubious. But new arguments were devised by its supporters, and it is largely on the question of their validity that later controversy proceeded. The first such argument was that effective bimetallism lessens disturbances between gold and silver standard currencies by maintaining a stable exchange ratio between them. The second was that bimetallism tends to produce a more stable price level than either gold or silver monometallism. Let us take up the exchange stability contention first.

Many disturbances of course are imposed on trade and investment between gold and silver standard countries when the exchange ratio between their monetary units changes violently. Investors and exporters in gold countries are unable to calculate with any degree of certainty the amount of their own country's currency into which at some future time their silver credits can be converted. In the next chapter illustrations will be provided of this type of disturbance. It was largely on account of the consequences of depreciating silver currencies that there arose in the eighties and nineties a demand for the creation of a world bimetallic union, able by its operations to mitigate such fluctuations in the market value of gold and silver.

This complaint is of course sound. Practically, however, the interest of monetary authorities is the question of the best way of avoiding the difficulty. Why not overcome it by having all nations accept the same monetary standard, say gold?

What held back earlier solution along these lines was again the failure of silver standard countries to distinguish between money and currency. They did not see clearly enough that, to go over to the gold standard, they would not be obliged to abandon silver as a circulating medium. When the gold exchange standard was devised and it became clear how simple would be the transition to the gold standard, much of the opposition to gold monometallism vanished. In the next chapter these points will be elaborated and illustrated. For the present we can only record that the general triumph of gold was hastened by the development of the gold exchange, as well as of the gold bullion, standard.¹

¹ For a discussion of these monetary systems, see below, pp. 125-130.

The other argument, the alleged tendency of prices to fluctuate less under bimetallism, involves more complicated considerations. To consider it thoroughly would require more difficult analysis than the present importance of the question warrants. But the student may be willing to take a little on faith. The bimetallist does not argue that in every conceivable situation bimetallism would produce stabler prices. He asserts only that it is likely, under bimetallism, that a tendency of gold to appreciate would be offset, through the action of the compensatory principle, by a tendency of silver to depreciate, or, at least, to appreciate less than gold. But there is a chance that silver might tend to appreciate more than gold, or to depreciate so much that the bimetallic monetary unit would change more in value than a gold monometallic monetary unit.

If gold, on the other hand, should tend to depreciate, silver might tend to depreciate less, or even to appreciate, so that, under bimetallism, the compensatory principle would provide a monetary unit of stabler value. But the bimetallist cannot guarantee that silver would not tend to depreciate more than gold, or, if it should tend to appreciate, to rise far more than gold is falling.

The argument that a bimetallic monetary unit should undergo the less severe value changes is thus, at best, only a probability argument. It contains only as much truth as the familiar saying that two drunken men totter less when they walk arm in arm. Probability arguments of this sort are seldom convincing. We can never be certain that there may not be a bias against the occurrence of the mathematically most likely case. If silver be in fact the more erratic metal, from the point of view of pronounced fluctuations in output and commercial demands, bimetalism might operate to produce less price stability than gold monometallism.

That silver is inherently the more erratic metal is precisely what opponents of bimetallism maintain. They argue that, since silver is the cheaper metal, greater fluctuations in its commercial usage are probable. On the supply side it is to be noted that silver is usually found in the ores in combination with other metals. It may continue to be produced in quantity as a by-product even though excessive supplies have already been produced and have weakened its value significantly.

The second point, however, is more significant. In the probability argument, as we have it, conclusions are based on the assumption that disturbing factors originate solely from changes in the relative supply and commercial demand for the two metals. All this begs the question of our ability to regulate adequately the quantity of the currency which represents the standard. It is possible that the value of the standard can be influenced by what we do with its physical representatives. To determine whether or not this is so must be one of our later tasks. But in this problem, as in so many others, we must not fail to distinguish between the unit of account and the currency outstanding against it.

We shall see later that few price stabilizationists of today would endeavor to achieve their ideal by proposing the adoption of bimetallism. An inconvertible paper currency is more conducive to regulation in the interest of price level stability than any form of a bimetallic standard.

Just a few more historical facts must now be reviewed. In the early seventies of the nineteenth century the bimetallic cause received two severe jolts. It was in 1873 that the United States closed its mints to the coinage of silver dollars. At about the same time the newly organized German Empire undertook a currency reform whereby the silver standard was abandoned for gold. Members of the Latin Union then became discouraged. They feared that their currencies would become largely silver, a commodity beginning to fall in value. Shortly they took steps to restrict the coinage of silver, and the Latin Union ceased to function as an effective support of bimetallism. Russia and Austria later effected the transition to gold, as did India in the closing years of the century. Gold monometallism had triumphed over a great part of the world.

REFERENCES

For a discussion of the development of subsidiary currency principles in the United States see:

NEIL CAROTHERS, *Fractional Money*.

In re the development of the gold standard in England see:

A. E. FEAVEYER, *The Pound Sterling*.

R. G. HAWTREY, *Currency and Credit*, Chap. 17.

In re the German transition from silver see:

KARL HELLFERICH, *Geld u. Banken*, 1 Teil, Das Geld, 1, pp. 153-181.

For an account of the Latin Monetary Union see:

H. P. WILLIS, *A History of the Latin Monetary Union*.

General works on bimetallism include:

LEONARD DARWIN, *Bimetallism*.

J. LAURENCE LAUGHLIN, *The History of Bimetallism in the United States*.

For a discussion of the bimetallic controversy in the United States see:

W. J. BRYAN, *The First Battle*.

A. BARTON HEPBURN, *A History of Coinage and Currency in the United States*.

F. W. TAUSSIG, *The Silver Situation in the United States*.

CHAPTER XI

TRANSITIONS FROM SILVER AND PAPER STANDARDS TO GOLD—EAST INDIA

THE GOLD EXCHANGE STANDARD AS A DEVICE TO STABILIZE THE GOLD VALUE OF A SILVER CURRENCY

It was argued in the preceding chapter that one of the most important factors in the triumph of gold was the discovery of the distinction between the monetary unit and the instruments that represent it in the general circulation. Countries with a silver or paper currency found it possible to achieve the gold standard without introducing large quantities of gold into circulation.

One of the most effective devices for stabilizing a paper or silver currency in gold has become known as the gold exchange standard. It can be discussed under one of two methods. First, there might be a rather detailed account of the circumstances which led to its adoption in a particular country. Second, such generalizations could be made as would be applicable to a number of countries that have set up this type of a monetary system. We shall follow the first plan here and illustrate from the experience of East India between 1893 and 1908.

CURRENCY CONDITIONS IN INDIA PRIOR TO 1893

In 1893 India was on the silver standard. Its principal circulating medium was the rupee, a silver coin with a foreign exchange value of about 13 d. in English currency or a little more than 25 cents in our currency. The rupee was legal tender for all debts and was freely coined on private account. Copper and silver coins circulated as subsidiary currency. Only a few gold coins, and most of these of ancient origin, were to be found in the circulation.

The right of banks or private parties to issue paper notes in a form conducive to their use as a circulating medium was denied by statute. A certain quantity of government paper currency

was in existence. Except, however, for a moderate and stipulated amount, this paper currency was secured fully by coin or bullion. Paper currency in India could not reach a high volume, therefore, except through a substantially corresponding increase in metallic reserves.

In the centers of finance, Calcutta, Madras, and Bombay, particularly, banks had developed much along the lines of western institutions. In the interior, however, banking facilities were scarce, so scarce that the government found it necessary to equip the postal system with power to accept savings deposits. On the whole, the country's credit system was archaic and undeveloped, so that bank credit can fairly well be disregarded in an analysis of the country's currency problems.

For years India had been known as the sink of the precious metals, and many headaches of western financiers had originated in the tendency of silver imports to find an apparently permanent resting place in the country. On this account we should expect to find the per capita circulation of rupees in India rather large. But authoritative estimates indicated on the contrary that the per capita rupee circulation of the country was small.¹

Explanation of this seeming incongruity is to be found in part in the peculiar hoarding habits of the Indian native. It was a common practice for the natives to have their rupees melted down and formed into ornaments which would be worn on their bodies, as anklets, bracelets, wristlets. On occasion of need these ornaments could be taken to bullion dealers and reconverted into rupees. The dealer could melt the ornaments down and have the silver bullion converted into rupees at the mints which were open to the coinage of silver on private account in unlimited quantities. In a sense these ornaments represented the savings accounts of the Indian native.

These hoarding practices have been referred to here because in many ways they complicated the problems of currency reform. For one thing they stood in the way of a monetary program that might involve as one of its points the closing of the mints to the free coinage of silver. Such action would deny to the Indian native the power to convert his ornaments into coins. It might be expected, therefore, that the strains and stresses in the

¹ See F. C. Harrison, "An Attempt to Estimate the Circulation of the Rupee," *Economic Journal*, December, 1891, and June, 1892.

country's economy must be serious and prolonged before departure from the silver standard would find general support.

But such strains had long been the problem of the monetary authorities. After the American demonetization of the silver dollar in 1873 and Germany's transition to the gold standard at about the same time, as well as after the lessened support given to silver by members of the Latin Union in the same decade, the gold value of silver fell steadily. With it fell the sterling value of the Indian rupee. In 1873 the rupee exchange averaged approximately 23 d.; but in 1893, 20 years later, the rupee was worth only about 13 d. In two decades the rupee's gold value had fallen about 40 per cent.

CONSEQUENCES OF THE 20-YEAR DECLINE IN THE RUPEE EXCHANGE

This fall in the gold value of the rupee subjected India to many complications and disturbances. First of all, there was the matter of the so-called Home Charges, whereby India was required to remit England approximately 15 million pounds a year. The budgetary item "Home Charges" referred to the expense of servicing a debt and to repayments for civil and military expenditures undertaken by the English treasury for the benefit of India. To meet these charges the local government was required to raise rupee revenues by taxation and other devices. But as the rupee purchased less and less of sterling exchange budget estimates were constantly in error, and Loss by Exchange became a recurring, though in amount unpredictable, item in the budget.

It might be surmised that the same forces which lowered the exchange value of the rupee should operate to increase the ability of the Indian taxpayer to provide more rupees. The rupee exchange fell because silver was becoming, in relation to gold, a more abundant and cheaper commodity, and the rupee income of the country was greater because of the cheapening of silver. But we must allow for lags and frictions. Internal prices, one factor in determining the country's rupee income, could not be expected to rise simultaneously and *pari passu* with the fall in the rupee exchange. By the early nineties the country's fiscal problem had become serious. Particularly was this true because in such an economy as that of India it was not feasible to utilize an elastic income tax.

But the government was not the only party whose calculations were constantly being disturbed by this decline in the rupee exchange. Indian borrowings, payable as to interest and principle to foreign creditors in rupees, yielded less and less sterling as years passed by. Eventually it became the practice for Indian obligors to promise interest and principal repayment in foreign currency. This procedure threw the whole burden of exchange risks upon Indian borrowers and impeded the ability of the country to obtain foreign capital for its extensive program of canal and railroad construction.

Officials of the civil and military service who received their salaries in rupees found that loss by exchange was impairing the value of sterling remittances generally made to provide for the support of their families residing in England. Much discontent thus developed among members of these services.

Indian businessmen, as importers, found it more expensive to make their remittances when, after the date of contract, the rupee fell in the exchanges. Exporters, on the other hand, frequently benefited from the fall of the rupee. But the exporting classes, nevertheless, did not prevailingly demand adherence to the silver standard because of such windfall gains. They realized that only a continuance of the decline in exchange would benefit them in the future and that a possible rise in the rupee exchange, by creating a condition in which a given amount of foreign currency would convert into fewer rupees, would produce an unpredictable loss. Through the instrumentality of trade associations and chambers of commerce the exporting classes generally supported the opposition to the policy of remaining on the silver standard.

LIFTING THE RUPEE. THE TECHNIQUE OF THE MONETARY TRANSITION

All these disturbances illustrate the difficulties to which international trade, in the seventies and eighties, was subjected by the existence of varied monetary systems. It has been argued previously that it was to avoid just such difficulties that many authorities advocated encouragement of an effective international bimetallic agreement. Successful bimetallism would tie gold and silver monetary units together and produce stability of exchange rates, save, of course, in the case of exchanges with countries of

inconvertible paper currency. In the several international monetary conferences held from 1878 to 1892¹ to explore such possibilities, Indian delegates urged sympathetic consideration of concerted bimetallism. As indicated before, however, and largely on account of the consistent, although somewhat veiled, opposition of England, hopes for such a bimetallic agreement failed. India, therefore, was virtually forced to find its own solution for the problem of fluctuating exchanges. Such a solution required it to get off the silver standard and attach itself to the monetary system that prevailed in countries with which its trading relationships were the most intimate.

The technique of transferring from one monetary standard to another, however, is complicated and involves difficult problems. In the case of India the country had no gold and was in no position to offer gold in exchange for rupees. Neither was it easy to determine the rate at which the rupee would be stabilized. At the time of India's transition, moreover, opinion even in professional circles was not clear regarding the feasibility of utilizing one commodity as a standard and another as the component of its circulating medium.

It is not surprising, therefore, that in the year in which the reform was begun, 1893, a complete program was not even devised. Little was done in that year except, first, to break loose from the silver standard; and, second, to fix a sterling rate beyond which the rupee could not rise.

It was easy enough to cut loose from the silver standard. The avenue by which a cheapening metal could be converted into currency simply had to be closed. This avenue was the mints at which had been permitted the coinage of silver into rupees on private account and in unlimited amounts. The closure of the mints was immediately effected by an appropriate governmental decree. After the mints had thus been closed the rupee circulation could not be increased save, as will be explained later, by the offering of gold to the Indian mints for exchange into rupees.² But the rate at which rupees would be offered for gold was not such as to make it probable for the time being that any gold would be brought in.

¹ See Appendix, Chap. XI, Note II.

² For special reasons a limited number of rupees was coined for a while after the closure of the mints.

What would be the effect of thus prohibiting an increase in the rupee circulation? The faction responsible for the action that was taken, the members of the "relative contraction" school, argued that, as the country grew in trade and population, the demand for rupees would increase so that the internal value of the rupee must rise. With this rise in the purchasing power of the rupee it was contended the foreign exchange value of the rupee would also tend to increase. Relatively low prices at home, the equivalent of a high purchasing power for the monetary unit, would stimulate exports, discourage imports, and produce a favorable trade balance the settlement of which would lift the rupee in the foreign exchanges.

But how high should the rupee be lifted by this process of starving the circulation? In the opinion of the writer the wiser policy would have been to try to increase the rupee's foreign exchange value little if at all. Lifting the rupee in the manner suggested involved price deflation,¹ and the consequences of deflation are difficult to endure. But the opinion prevailed that in 1893 the rupee had been depressed below its "real" value. Speculation in the exchanges, it was argued, had been dominated by bear sentiment in that continued declines along the lines of the past pattern had been anticipated. It was resolved, therefore, in 1893 to try to lift the rupee to 16 d. By a governmental decree it was announced that India would give rupees for gold at the rate of 1 rupee for 16 d. (or 15 rupees per sovereign).

This decree did not provide for the convertibility of rupees into gold (only for convertibility of gold into rupees). Not until it had been learned whether the relative contraction process would succeed in raising the rupee to 16 d. was decision to be made regarding the steps necessary to complete the reform. The agreement to give rupees for gold merely fixed an upper limit beyond which the rupee could not rise.

How effectively did the "relative contraction" process operate? At first the results were somewhat discouraging in that the rupee seemed to be following the silver bullion market in a downward course. Within a few years, however, the rupee exchange separated itself from the course of the silver market and began to rise. By 1898, five years after the reform had been begun, the rupee exchange had touched 16 d. and foreign remitters were pre-

¹ Unless prices in gold standard countries should rise.

sending gold to India to be exchanged for rupees. With the exchange value of the rupee thus lifted, the government was now in a position to attempt permanent stabilization. But to secure expert opinion as to the proper technique to follow it created the Indian Currency Committee of 1898, the Fowler committee.

The success, even though belated, of the relative contraction policy has made the period from 1893 to 1898 extremely interesting to monetary economists. Proponents of a strict interpretation of the quantity school make frequent references to this period. To them it is a striking illustration of the ability of a government to control the value (purchasing power) of its currency by regulating the supply of its payment media. Objectors to this theory, however, argue that it was merely the growth of the opinion that the government would convert the rupee into 16 d. at a later date that brought about the rise of the rupee.

Into this controversy we shall not enter. But the principal problem presented to the Currency Committee of 1898, how to complete the reform so that henceforth the rupee would be stable in the gold exchanges, calls for careful consideration. This problem, in brief, was whether the effort should be made to get gold into general circulation.

WAS A GOLD CIRCULATION REQUIRED?

Mr. A. M. Lindsay, an Indian banker, was the principal advocate of a gold standard without a gold circulation. His testimony before the committee supplies perhaps the finest defense in currency history of that monetary system we came later to know as the gold exchange standard. Lindsay was greatly impressed by the difficulties that would be involved in any attempt to get gold coin to circulate widely. Not only would such a system be expensive under the most ideal circumstances, but in India its effectiveness would be especially handicapped by the hoarding propensities of the Indian native. Gold that might be drained away into hoards or melted into ornaments would be difficult for the government to acquire for the purpose of settling debts when the international balance of payment was against the country. Lindsay recommended, therefore, that the internal use of silver be not discouraged but continued as the

principal element in circulation. To prevent its depreciation in the exchanges the rupee should be convertible not into gold at home but, instead, into drafts against a gold reserve held abroad. The gold reserve of India would thus be maintained in London. Against this foreign gold reserve the government should be prepared at all times to sell drafts at the rate of $15\frac{7}{8}$ d. per rupee. With a par of exchange of 16 d., $15\frac{7}{8}$ d. would be the ordinary gold export point.

In London, on the other hand, the government should always be prepared to sell for gold drafts encashable in India in rupees. Lindsay proposed that the rate at which these drafts would be sold should be $16\frac{1}{8}$ d. per rupee. This would be the rate at which gold would be imported into India under a 16 d. par of exchange.

If the drafts sold against London in India should have a value equal to that of the drafts sold in London against India there would be no change in the size of the London gold reserve. It would be expected, however, that periods would frequently arise in which the balance of payment would be against India for a considerable length of time. It would be necessary, therefore, to begin the plan with a sufficient gold reserve abroad to take care of such discrepancies in the balance of payment. This gold reserve would be obtained at the outset by borrowing.

But how large would this gold reserve have to be? The answer would depend on a number of factors. First of all, there would be the question of the extent to which India's balance of payment would be expected to be unfavorable in any given period. This in turn would depend on the power with which corrective forces would operate under the plan to reverse adverse balances. Mr. Lindsay contended that, under his plan, the corrective forces would operate speedily and effectively. As gold drafts were purchased in India the rupees paid for them would be withdrawn from the internal circulation. They would be unavailable for the use of trade. They would exert just as depressing an effect on prices, or just as lifting an influence on interest rates, as would be produced by an export of gold under a monetary system in which gold is obtainable at home. Lindsay proposed that the size of the London gold reserve in the beginning should be fixed at such an amount that its exhaustion would call in from circulation so large a quantity of rupees that a currency

famine would prevail in India and automatically produce the required degree of corrective action.

But this was not all. In the long run India, under the Lindsay plan, would be expected to experience a favorable balance of payment. For, if such a long-term net balance in India's favor did not occur, India's monetary circulation would not increase as does normally that of gold standard nations. India would thus become a relatively low-price and low-cost country. It would have advantages in the world's markets as an exporter of wheat, cotton, jute, and other exportable commodities.

Let us state this contention in a different way. Every year the gold mines of the world add to the world's monetary gold stock. But this gold output does not stay in the areas of production. It spreads about among the nations as do most other commodities. If it should remain as an addition to the circulation of the producing country, prices in that country would get above the world level and automatically tend to constrict exports. A nonproducer of gold like India, on the other hand, must receive its share of the annual production unless, perchance, it should follow a policy of inflating its circulation with nongold elements.

Rupees, of course, would have to be supplied purchasers of drafts in London, and silver would be bought for coinage into these rupees. But the silver out of which rupees were coined would cost only 7 or 8 d. per rupee. An enlargement of India's currency would thus produce profits. These profits would be allocated to the foreign gold reserve.

Even though India should experience no long-term favorable balance of trade and just come out even, it would still profit from the Lindsay plan. Drafts sold in London would bring in $16\frac{1}{8}$ d. per rupee. When the balance of trade should reverse itself, the rupee would be taken back at a cost to its gold reserve of $15\frac{7}{8}$ d. The difference between these two figures would represent profit in the form of an enlargement in the gold reserve. In essence the government would be appropriating unto itself what is normally wasted in useless shipments of gold to and fro between the nations.

A plan under which India's internal circulation would consist of paper, instead of silver, would be even more economical. There was nothing in the Lindsay plan to exclude the greater use of paper.

WHY LINDSAY'S GOLD EXCHANGE PLAN WAS REJECTED

What was the fate of Lindsay's plan before the Currency Committee of 1898? In brief, it met a flat rejection. But, to the writer, the reasons advanced by the committee in support of the rejection established only the failure of the wise men who were its members to comprehend even the elementary principles of the plan. History was also destined to demonstrate their superficiality.

But what were the objections of the committee to the Lindsay plan? First of all, the plan was said to be an innovation. In the opinion of the committee, orthodoxy required a gold circulation if the monetary standard was to be gold. But was the plan an innovation in the sense that it distinguished between the circulation and the standard? Of course it seemed to be such to those who make no distinction between money and currency. But, even at the time of the committee's report, it would have been difficult to find a currency system in which gold either was the most important element in circulation or was even increasing in importance. From the point of view of the security of the system, it of course would be desirable for India to acquire a large amount of gold. But that was impossible in the near future. The question was how a limited quantity of gold could be used most effectively to support the currency in circulation. Lindsay argued, and without the possibility of effective retort, that gold in circulation would comprise a less secure support than gold in reserve.

The second objection to Lindsay's plan was that it would base India's gold standard upon a limited supply of gold kept in London. If the balance of payment should be against India for any considerable period of time it would be necessary for such a large amount of drafts to be sold in India encashable in London in gold that the gold reserve would become depleted. This point, of course, was correct. But it would hold just as much against a monetary system in which gold was a part of the circulating currency. An adverse balance of payment would cause the loss of gold, or such part of it as the government could withdraw from circulation.

The decisive consideration, however, would be whether the same corrective forces would come automatically into operation

to correct an adverse balance of payment under the one plan as under the other. We have argued earlier that they would. An adverse balance of payment would produce a contraction of the circulating medium under either plan although in different ways. Under the Lindsay plan rupees would be called in from circulation to pay for the drafts against London. Under the gold circulating plan gold would leave the internal circulation and go abroad. The effects of this contraction in the currency supply would be the same under either plan.

It was contended further by objectors to the Lindsay plan¹ that it would be unfair to the exchange banks in that they would lose the business of providing sterling exchange. This objection also rested on a misunderstanding of the mechanics of the Lindsay plan. Under the Lindsay plan drafts would not be sold against foreign reserves except when exchange rates were at the points at which gold would be shipped in or out if the system provided for an internal circulation of gold. At rates between the sterling points the exchange banks would operate as they normally do. Purchases of drafts from government agencies would merely take the place of shipments of gold.

There were political objections to the Lindsay plan, not much stressed by the Committee, which made an issue of the proposal to keep the gold reserve in London, physically removed from India. Related to this same objection was the contention that confidence in the currency would not be so great if the gold reserve was located abroad.

As far as this latter point goes, it should be kept in mind that the native of India, under the Lindsay plan, need not and probably would not know that any change in the currency system had taken place. He would continue to use rupees for ordinary currency purposes, and the extent of his curiosity would probably be confined to wondering what force had operated to stop the unwelcome depreciation of the rupee. The political objection to keeping a gold reserve in London involves racial animosities and, therefore, cannot easily be answered. It should be remembered, however, that the gold initially placed in the reserve would be obtained by borrowing in the London market. If England should

¹ This point, however, was not stressed in the final report of the Currency Committee.

loot the reserve in the event of hostilities, India could tear up its promissory note.

PROBYN'S GOLD BULLION STANDARD

A plan was devised, however, by another witness, L. C. Probyn,¹ whereby rupees in India would be made convertible into gold bars instead of into gold coin. The largeness of the transaction involved would be expected to restrict the acquirement of gold for circulation purposes even though gold would be available in the form of bars for shipment abroad. This plan, later to become known as the gold bullion standard, was destined to be widely used in other countries. But, like the Lindsay plan, it was rejected by the committee, whose recommendations the government decided to follow. The effort was to be made to give India a gold circulation as well as a gold standard.

¹ In addition to Probyn's testimony before the Indian Currency Committee of 1898, see his *Indian Coinage and Currency*.

CHAPTER XII

TRANSITIONS FROM SILVER AND PAPER STANDARDS TO GOLD (*Continued*)

DEVELOPMENTS IN INDIA FROM 1898 TO 1907 FAVORABLE TO THE ADOPTION OF THE GOLD EXCHANGE STANDARD

With the rejection of the Lindsay plan by the government of India, it might reasonably have been concluded that the outlook for the eventual establishment of any effective form of the gold standard was dubious indeed. A gold circulating form of currency was open to patent objections, and the exchange plan had been renounced. But Lindsay, apparently, was not greatly downcast. He had always believed that his plan would be set up eventually in India despite any intention of the government to shun it. His astounding confidence in the plan was justified by the future turn of events. What we need next to do, therefore, is to outline the circumstances that resulted finally in the adoption of the principles of his plan.

For this purpose we may divide the years from 1899 to 1908 into two subperiods. The first subperiod extends to the autumnal crisis of 1907. During these years India's trade was flourishing, and the balance of payment was generally favorable. The financial problem was not so much how foreign creditors could collect payments from India but rather how foreign obligations to India could be discharged. Exchange was generally above the level of 16 d., and from time to time gold was shipped to India. In the years immediately following 1899 the government made efforts to get this gold into circulation by such devices as cashing postal money orders and making various salary payments in gold coin. It proved difficult, however, to keep this gold in circulation. As gold coins came into the possession of those accustomed to rupees or in need of the smaller denominations the gold would be paid back into trade and thence to banks where rupees would be requested in exchange. As the favorable balance of trade continued it became necessary, therefore, for the government

to purchase silver to be coined into the rupees required by trade.

India, however, possessed no important silver mines, and this silver had to be purchased principally in London. The futility of sending gold to India in settlement of foreign obligations to the country thus demonstrated itself. It was wasteful to permit gold to be sent to India if this gold would be rerouted shortly to London. The government, therefore, proceeded to sell for gold in London drafts encashable in India in rupees. These were the so-called "council bills." The rates at which these drafts were sold were not fixed definitely as they would have been under the Lindsay plan. But they were approximately at the suggested rate, somewhere above 16 d., because banks could still send gold to India for exchange into rupees and about $\frac{1}{8}$ d. out of each 16 d. would be the shipping charge. Meanwhile profits were being realized on coinage since the silver in the rupee could be purchased at far less than 16 d. These profits were employed principally to build up the country's gold reserve.

In reality, therefore, this period of a favorable balance of payment led to the development of two parts of the Lindsay mechanism. First, a foreign gold reserve was being acquired. Second, the practice grew of selling at approximately the gold export point drafts encashable in India in rupees. But the remaining part of the Lindsay proposal, sale of drafts in India when the rupee weakened, could not be tested until the country experienced a sharp and unfavorable trade balance.

DEVELOPMENTS FOLLOWING THE 1907 AUTUMNAL CRISIS

Such conditions developed in the fall of 1907. At that time unfavorable trade winds and a drought restricted India's ability to grow and export normal quantities of wheat, cotton, and jute. Buying power abroad was arrested, furthermore, by panicky conditions in the world's credit market centers. On the other hand, imports previously contracted for by India could not be arrested quickly. The problem now was how India could meet its obligations to other countries.

In fidelity to the recommendations of the Currency Committee of 1898, the government at first operated in the supposedly orthodox manner. The Indian treasury made gold available to banks required to provide sterling exchange. But, as panic

continued in India, the rupee exchange continued weak. In Indian bazaars a premium developed on gold coins. As Lindsay had predicted, gold was demanded not merely to discharge foreign obligations but for hoarding purposes. It was realized that, if India's resources should become exhausted, the rupee might fall 50 per cent or more, that is, to the level represented by the gold value of its silver content. The government continued, nevertheless, to provide gold until its domestic holdings were substantially exhausted.

In this crisis the government was forced to rely upon its gold holdings previously accumulated in London. It offered, toward the close of 1907, to sell in India drafts (reverse councils) encashable in London in gold at the rate of $15\frac{29}{32}$ d. per rupee. In the early part of 1908 a limited quantity of such bills was sold. Almost immediately the rupee exchange strengthened, and apprehensions of a forced return to the silver standard were subdued. It had been proved that the best way to establish confidence in the rupee was to provide gold only to those in need of making foreign remittances. After these 1907-1908 operations India had developed the precedent for complete employment of the machinery suggested by Lindsay. Practically speaking, the gold exchange standard came into at least qualified operation because it had been shown that a gold circulating currency could not succeed in a country short of gold resources and in panics vulnerable to gold hoarding.

OTHER GOLD EXCHANGE SYSTEMS

This experience of India is significant because it showed clearly the correctness of the principles for which Lindsay had contended. India's practices developed in spite of hostile intentions on the part of the government. In the meanwhile, however, the gold exchange standard was being set up in other countries. In 1903 the United States government introduced it in the Philippine Islands. Our country's influence led Mexico and Panama to adopt it later. The French government saw to its adoption in Indo-China, and the English Colonial Office succeeded in getting it into operation in the Straits Settlements. Writing in 1914, J. M. Keynes¹ remarked that the Dutch had

¹ *Indian Currency and Finance*, pp. 35-36.

secured the adoption of its basic principles in Java and that the Japanese system was substantially the exchange standard.

Since the time of these observations the system has found even wider application. Our main obligation, however, is to explain the eventual triumph of the single gold standard before the First World War. What has happened since is not significant for this purpose. Enough, therefore, has been introduced to show how incomparably more difficult it would have been for particular countries to make the transition from silver to gold had it not been for the development of the exchange standard.

ACCENTUATION OF DIFFICULTIES OF SILVER STANDARD COUNTRIES

The difficulties imposed upon remaining silver standard currencies as the gold orbit grew and as their trade with silver standard countries dwindled require further comments. Assume a situation in which the balance of payment (excluding silver and gold transactions) is unfavorable to S , a silver nation. Assume also that for independent reasons the gold value of silver falls. This fall in the gold value of silver might be due to a number of reasons, including continued and heavy silver production, a large commercial demand for the other metals found in the ores in combination with silver, a reduced requirement for silver for subsidiary coinage, or a substitution of paper for silver coins in various currency systems.

How much silver will S be required to send to gold countries to settle net debts? As silver falls in terms of gold the amount of silver shipments required to balance accounts may be greatly increased.

This is obvious. But we must still inquire whether the fall in the gold value of silver would not give exporters in S such advantages in world trade that the balance to be met by silver shipments (on costly terms indeed) would be sharply reduced. Such indeed would seem logical. But revenues might be less with the volume of exports high and prices low than if reverse conditions obtained. Even if this were not so, however, we would still have to inquire if the real sacrifice to the silver country would not be excessive. By the fall in the price of silver bullion S 's goods, without any intention on the part of its merchants, have been put on the world's bargain counters. There is such

a thing as overdoing concessions to effect sales. The "terms of trade," in other words, may have been worsened for *S*. It is required, perhaps, to meet its obligations at too great a real cost.

Would correction of the unfavorable balance have been easier if *S* had been a gold standard, instead of a silver standard, nation? In the first place, gold shipments to other countries would have operated to increase the quantity of the monetary circulation of these other countries. The burden of the readjustment would not then have had to fall so largely on *S* alone. Second, shipments of the money metal would not tend to accentuate the depreciation of *S*'s monetary unit. In the case assumed, the dispatch of silver from *S* may have resulted in throwing more silver on the commodity markets, in weakening further, therefore, the exchange value of *S*'s monetary unit and in accentuating the worsened terms of trade.

Suppose the balance of payment had been in favor of *S* before the gold value of silver had begun to decline on account of such developments as have been cited. The difficulties of *S* will now emerge even more clearly. Gold countries may be able to import more of *S*'s goods without giving up any more gold than formerly to purchase the silver required for balancing purposes. The decline in the gold value of silver has simply made it too easy for gold nations to acquire goods from *S*. It may be that the above has some application to the backward economic status of China.¹

A TRANSITION FROM INCONVERTIBLE PAPER TO GOLD

In concluding the discussion of the nineteenth century triumph of gold we should have an illustration of a transition from a currency composed, not almost entirely of silver, as in the case of India, but of inconvertible paper. For this purpose Austria is selected.

As in the case of India we may begin the narrative with the closure of the mints to the coinage of silver on private account. For Austria the date of the closure was 1879. At that time the currency consisted mainly of legal tender notes of the government, of bank notes of the Austro-Hungarian Bank, and of

¹ Compare Choy-Ming Li, "The Theory of International Trade under Silver Exchanges," *Quarterly Journal of Economics*, August, 1939, pp. 491-521.

subsidiary silver, with the silver florin as the unit of account. Just prior to 1879 favorable trade conditions had resulted in an appreciation of the florin in the foreign exchanges to a point exceeding the gold value of the silver represented by the unit of account. It would then have been possible for the silver standard to be restored without much difficulty. But previous years of depreciation of silver in terms of gold had indicated the undesirability of returning to a standard unstable in terms of gold. Austria's trade connections with gold currencies were constantly becoming more intimate. It, therefore, was decided to abandon silver as a standard. As a first step in this process the mints were closed to the coinage of silver on private account in 1878.

From then on until 1892, the gold value of the paper florin fluctuated independently of that of its silver content.¹ By 1892 it seemed safe to stabilize its gold value at a level corresponding to the average exchange rate over a period of time. Provision was made for the minting of a new gold coin, the crown, to pass current at half the value of the florin and to have a gold content necessary to make the par of exchange with the English pound 24.0174 to 1. In the meanwhile the government was to retire its legal tender notes and replace them partly with subsidiary silver and partly with Austro-Hungarian Bank notes based on gold.

What immediately followed indicated the importance to a country striving to reach the gold standard of the course of prices in gold standard countries. If such prices generally rise the process of stabilization is rendered easier. Otherwise, either the rate of exchange must be lowered or burdensome domestic deflation undergone. In the first several years of the decade of the nineties the course of prices in gold countries was downward. Austrian exchange went to a discount, and it was not until 1896 that the premium on gold was wiped out.

With the advance of prices in gold countries after 1896, however, these difficulties were mitigated. Austrian currency strengthened, but the appreciation of the crown was restricted because the Austro-Hungarian Bank stood ready to buy gold (or sell florins) at the rate of 24.0174 crowns to £1. The country's

¹ An understanding of this point of Austria's monetary history by the Indian government in 1893 might have lessened perplexities regarding India's ability to keep the rupee exchange above the rupee's intrinsic value.

gold holdings thenceforth tended to increase. Austria's gold standard weathered all strains until the outbreak of the First World War in 1914.¹

In going over to gold Austria did, and India did not, provide for the minting of a special coin. Such a coin is not essential. If the objective is to get gold into circulation there may be some advantage in providing a coin of the weight and denomination most convenient and serviceable for domestic trade. But it is not essential, as argued above, that the gold coin circulate. What is important is that the domestic supply of currency be incapable of expansion except on terms whereby the country's gold holdings will increase.

ABUSES OF THE GOLD EXCHANGE STANDARD

The favorable comments we have advanced in respect to the utility of the gold exchange standard as a device to economize gold should not be interpreted to imply that this monetary system does not require expert management. Like any other system it may be ably or poorly managed, and its success may be determined by this factor.

Successful management requires consideration of and obedience to several principles. In general, however, policies should be adopted that will permit currency expansion to take place only in response to the same forces as would operate under a conservatively administered system of a gold circulating currency. Countries that have effected temporary stabilization by the device of procuring a foreign gold loan, against the proceeds of which drafts may be issued, should guard this reserve just as jealously as if it consisted of physical gold. When drafts are made against the foreign reserve forces must be permitted to develop that will contract the local currency.² The influence of these contracting forces should not be offset by such practices as continued deficits of the government. Deficits mean the expenditure and, consequently, the injection into circulation of more currency than is withdrawn from private expenditure.

¹ Little use was made of primary sources in the discussion of Austria's transition. The author depended largely on R. G. Hawtrey, *Currency and Credit*, Chap. XIX.

² Under the impact, perhaps, of an increased rate of discount by the country's central bank.

The tendency to disregard this basic principle, as did so many South American countries, is often attributable to the circumstance that, at the time of the currency reform, the nation is undergoing a crisis. That is the reason it asks the advice, perhaps, of an impartial commission and considers reform. But after the commission has reported and its recommendations have been accepted, a letdown in monetary orthodoxy is more or less inevitable unless there is stern resolve to follow a sound course. It is as if it were a responsibility of the plan to subdue the crisis so that, when the crisis is over, disagreeable duties need not be accepted. What tends to happen in such instances, of course, is that a new crisis develops when the foreign reserve is threatened with exhaustion. This new crisis may be even more difficult to control than the preceding. At the time of the first reform, bonds of the government may have been sold abroad to obtain the gold reserve that is required. Failure to service the foreign debt adequately impairs the country's credit and impedes the task of floating new issues to obtain gold resources.

An allied danger inherent in the gold exchange standard is the disposition to regard a loss of funds in the foreign reserve with greater equanimity than a loss of physical gold under the gold circulating type of currency. Since the domestic circulation consists of paper and silver nothing occurs at home, if the central bank adopts an easy credit policy, to indicate a weakening in the security of the currency system. From the point of view of the reserve-holding country, on the other hand, a movement of funds into the reserve of the gold exchange country should give rise to the same policies as otherwise would result from an outflow of gold.

A third danger is that a vast pyramiding of currency and credit on a limited gold base may be encouraged by the gold exchange standard system. This pyramiding occurs when the exchange country invests the gold of its foreign reserve in interest-bearing securities or bank deposits for the purpose of increasing the fund through interest receipts at regular intervals. When this occurs the gold exchange standard has really degenerated into a "sterling" or a "dollar" standard. From the point of view of the world financial structure a dominant currency rests on a restricted amount of gold, and this currency in turn is regarded as the reserve for a second monetary system. Too much credit and

currency may get based on an inadequate foundation of gold. This is often asserted to have been an important cause of the magnitude of the monetary debacle after 1929.

It should be evident, however, that the above-stated abuses proceed from a failure to understand that the gold exchange standard is not a special type of a monetary standard. It is merely a species of the gold standard. Its essential usefulness is only to prevent dissipation of gold into unnecessary domestic drains. But this utility was a leading factor in the ability of the gold standard to become well-nigh universally established before the First World War.

REFERENCES

- E. W. KEMMERER, "A Gold Standard for the Straits Settlements," I and II, *Political Science Quarterly*, Vols. XIX (1904) pp. 639-649, and XXI (1906), pp. 663-698.
- E. W. KEMMERER, *Modern Currency Reforms*.
- G. F. LUTHRINGER, *The Gold Exchange Standard in the Philippines*.
- JOHN H. WILLIAMS, *Argentine International Trade under Inconvertible Paper, 1800-1900*.

CHAPTER XIII

THE DETERMINATION OF THE VALUE OF THE MONETARY UNIT: THE TRANSACTIONS EQUATION OF EXCHANGE

METALLIST DOCTRINES

Many of the problems previously discussed have involved the question of the determination of the purchasing power of the currency in circulation. It seems best not to postpone longer consideration of this central problem of monetary theory.

There are two principal schools of thought about the value of the monetary unit or, conversely stated, the forces determining the height of the price level. There are in the first place those who stress the exchange rate that exists between any other commodity and that one, if there be any, which is the standard of the monetary system. Since the commodity chosen as the standard has prevailingly been a metal, adherents of this point of view have generally been known as metallists or bullionists. Proponents of the second school, on the other hand, emphasize the influence on prices that they maintain is exerted by the volume of the circulating medium which represents the standard. To contrast these doctrines more sharply, metallists deny that the value of the standard commodity can be significantly altered merely by changing the volume of the currency that represents the standard.¹

Bullionists often indicate their doctrinal sympathies indirectly by employing certain trite expressions. One of the writer's earlier associates used to counsel his students to cease thinking in terms of dollars and, instead, to envisage dollars as bits of gold, then containing 23.22 grains. Another associate was fond of remarking that, when a person bought a house on time, he,

¹ Metallists would admit that, if currency is increased to a point at which it could not be converted into as much of the standard commodity, the value of the monetary unit would tend to fall. As Laughlin would say, there is such a thing as "illegitimate" credit.

in effect, was selling gold short. He argued that the dollars the home buyer had yet to obtain should be regarded as the equivalent of so much gold. When dollars are convertible into gold the metallist thus insists we should emphasize, not the dollars, but the commodity into which they are convertible.

One difficulty that confronts the bullionist is that of explaining the manner of price-level determination in a society in which the circulating media are not convertible in a specific commodity. Suppose a gold standard has lapsed into inconvertible paper. How, then, would price levels be determined? The monetary unit could no longer be identified, it would seem, with a specific amount of such a commodity as gold. Would not this situation prevent examination of the forces which make the purchasing power of the monetary unit high or low? Obviously this is a real difficulty with bullionist doctrines. The price universe that is explained is too narrow. Frequently, however, the bullionist endeavors to escape from this difficulty by insisting that an avowedly inconvertible paper currency cannot be made to circulate. In the period of inconvertibility, he will assert, the value of the currency will depend upon prospects that its gold redeemability will be resumed sometime in the future. We have argued previously that this position ignores the main currents of currency evolution.¹

To the bullionist, therefore, the monetary unit is to be considered as a certain amount of the standard commodity whose value increases or decreases as the general preference for the standard commodity as against other goods rises or falls. The disposition of a housewife to buy a batch of groceries thus depends on her willingness to abstain from such satisfactions as holding a claim to the standard commodity would provide. It must be left to the reader to determine whether such an explanation is realistic and helpful in understanding the psychology of the buyer.

APPLICATION OF METALLIST DOCTRINES

What would be the consequences of accepting such a doctrine? If the metallists be correct, the ability of any country to regulate its price level should be the stronger. For, if a bushel of wheat has the value in exchange of 23 grains of gold, and 23 grains of

¹ See above, pp. 28-29.

gold is a dollar, the value (price) of a bushel is a dollar. But if, without any change occurring in the gold value of wheat, 23 grains of gold should be made \$2 by a governmental fiat, the price of the bushel of wheat would be \$2. By devaluation procedure, that is, by lowering the gold value of the dollar, any country, if this theory be correct, could easily raise its price level, if such a course were desired, to any height. This is why Professors Warren and Pearson had so much confidence in 1933 in the ability of the United States to provide itself with whatever price level distributive justice might seem to require.

It is interesting to note, however, that 40 years before 1933 the metallist position was taken by an opponent, instead of by a supporter, of the then current radical monetary program. During the campaign of 1896 Mr. Bryan had been contending that this country required a larger monetary circulation and that a cheaper dollar thus provided would alleviate the difficulties falling prices had imposed upon the debtor classes. Bryan's remedy was to permit the free coinage of silver, and gold, at the old ratio of 16 to 1. Professor Laughlin, in opposing this proposal, maintained that the Bryan plan would be ineffective in raising prices unless it should result in destroying gold convertibility of the dollar. This, Laughlin conceded, might be the result of Bryan's bimetallic proposal. But, to Laughlin, any such deliberate debasement of the dollar seemed socially immoral since, as he viewed the problem, contracts stated in terms of the dollar called in reality for the transfer of so much gold.

The main effect of the metallist doctrine in circles in which it has been accepted, however, has been to delay emphasis on the importance of a changing quantity of the circulating media as a price-level determinant. Earlier thinkers stressed altered supply and demand conditions of individual commodities, "the goods factors," as a determinant of the price level much more than is now in accord with prevailing scientific opinion.

RELEVANCY OF ATTENDING CIRCUMSTANCES

Have conditions of the economic environment anything to do with the validity of the metallist doctrine? In the opinion of the writer they are highly pertinent considerations. In a society in which the standard commodity is assumed to be a large part of the circulating medium, and in which also the commercial

demand for the monetary commodity is relatively important, price making partakes of the barter process. The utilities of the standard as an ordinary commodity would then have more to do with buyer's decisions. But, at the present time, the commodity that won the battle of the standards, gold, has a relatively insignificant commercial use. Gold no longer is so much wanted for the direct satisfactions its possession provides. Its importance in price-level determination is now principally that of restricting, when it is accepted as a standard, the supply of the other media that circulate against goods. Gold's value as a commodity is determined by the purchasing power of the currency that represents gold rather than the other way around.

General acceptance of the importance of the supply of currency as a dominating factor in price determination, however, was slow to develop. One retarding factor was the oft-referred-to confusion between the money of account and the media of payment. The money of account cannot be represented statistically. Only currency can be added and subtracted. But, largely as a result of the inrush into economic investigations of quantitative methods of research, which have progressed so much further in the physical than in the social sciences, an apparatus was developed into which easily fits analysis of the effect of changes in the supply of the circulating medium. This apparatus has become known as the equation of exchange. To clarify its meaning is our first task. Later on we shall have something to say regarding its usefulness.

THE EQUATION OF EXCHANGE AS A TOOL OF QUANTITATIVE ANALYSIS

The equation of exchange is merely an algebraic statement of the "proximate" factors which, according to the way in which they are combined, make the price level, if that is the unknown factor, what it is. The term "proximate" is used in reference to the included factors because each of them is the result of more other factors than can be enumerated easily. The basic equation is simply $C_r = C_s$. In words, currency received by the seller of goods is equal to the amount of currency given over by the buyer of goods.

But is the amount of currency spent by the buyers over an extended period of time restricted merely by the amount of cur-

rency in existence at a particular moment? Of course the period of time could be deliberately chosen for the purpose of having the average unit of currency change hands just once. But, unlike destructible consumption goods, currency is used over and over again. The most important element in our circulation, bank deposits, disappears from the possession of the first owner as he writes checks but reappears almost simultaneously in the account of the payee. In a period of time such as a year the total amount of currency C will have to be multiplied perhaps as many as 30 times in order to determine the total amount spent, C_s . If we call C 's multiplier V , because the unfortunate term "velocity" has established itself in the literature,¹ we have: $C_s = CV$. CV , therefore, equals C_r .

Let us proceed next to the breakdown of C_r . Currency received may be regarded in turn as the equivalent of the product of two factors, the physical quantity of goods sold and the average price of the goods sold. C_r , therefore, is equal to

$$q_1p_1 + q_2p_2 + q_3p_3 \dots ,$$

or Σqp , when the q 's refer to specific quantities of particular goods and p 's to the average price of each such good. Q_1 , for instance, might refer to 100 tons of coal, and p_1 to \$10 as the average price of each ton. As we now have it, $CV = \Sigma qp$.

In the literature it has become customary to represent Σqp by PT , in which physical quantities are represented by T , trade, and P , the average price of the goods that move in trade. Technically, of course, PT is bad mathematical terminology. T refers, usually, to many commodities, to cloth, to corporate securities, to iron, to house rents, to labor. There is no homogeneous unit of T . It is impossible to add coal to cloth to corporate securities to iron to rents to labor. The expression $CV = PT$ is correct only insofar as it is read as the equivalent of Σqp .

How extensive is the area of trade to which these terms can be made to apply? The answer is that, if the terms are defined correctly in reference to the requirements of the problem in hand, the equation may be made applicable to whatever portion

¹ Objection is made to the term "velocity" because it seems to imply that currency is constantly in movement, on the wing, so to say. As a matter of fact, money balances are more often idle.

of trade is desired. If P is the average price of a bushel of potatoes in a given period and T is the number of bushels sold, C would have reference solely to the currency used to purchase potatoes and V would be the average number of times a unit of this C was used. For any other segment of trade the definitions would have to apply consistently to the transactions in which we pretend interest.

The equation of exchange $PT = CV$ is usually made applicable, however, to the total trade of a community or nation. It generally is impossible to determine in advance what portion of C will be exchanged against potatoes alone or against any other commodity. It is true that a specific amount of currency might be provided by loans to potato buyers for the sole purpose of enabling them to acquire potatoes. But after the potato seller has received currency in payment, he may use it for any purpose he desires. It is impossible to keep dollars confined to particular type of transactions. To make the equation as useful as possible it will have to be made applicable to our information. General, instead of special, purposes usually have to be subserved.

DEFINITIONS OF TERMS

Let us assume that the equation is to be used for general purposes. If that be so, P must be defined broadly. P must then be an average that will reflect changes in all prices, not merely those of commodities at retail or wholesale, and including prices of securities, labor, and rents. In past research, few good hodgepodge index numbers have been available, and for this reason economists have been inclined to assume without proof that changes in the types of prices that were available agreed closely with changes in other prices. There has been a strong inclination on their part to characterize the index of commodity prices that has gained the greatest prestige in this country, the All Commodities Index of the Bureau of Labor Statistics, as a *general* price index. It, of course, is nothing of the sort. To begin with, it is purely an index of commodity prices. Even in this field it gives undue weight to agricultural prices and to manufactured goods at wholesale prices. Its range of fluctuations has been far greater than if it had included other items such as wages. The most widely known price index designed to

represent the average change of all prices has been constructed by Mr. Carl Snyder.¹

In the measurement of T , similar difficulties have been encountered. As in the case of prices, economists have been prone to assume that changes in the physical volume of all trade would agree closely with those recorded by a few long-used barometers of trade, such as pig iron production, railroad car loadings, bank clearings. Increased information has made it clear, however, that all trade undergoes no such extreme changes, when the cycle moves from one phase to another, as are indicated by these barometers. A boom is likely to display a large increase in construction activity, and when this occurs pig iron output expands greatly as does also railroad traffic. Bank clearings undergo considerable enlargement in the typical upswing as a consequence of the clearance of checks written to pay for security purchases. But in this field, also, Snyder has done valuable pioneer work in providing an index more representative of trade as a whole.²

The problem of the definition of C involves greater difficulties than most economists admit. Of course C should not include redemption currency. It should refer only to the stock of C in the possession of prospective buyers of goods. Currency that is only the backing for the other currency that is outstanding should be excluded. The most difficult problem, however, is that of the inclusion of time deposits. It is often suggested that time deposits partake more largely of the character of an investment than they do of a debt-discharging instrument. It is also sometimes argued that they usually have to be converted into a demand account before they can be employed to meet a pecuniary obligation, and should thus be excluded from the category, currency.

In opposition to this point of view, however, it must be pointed out that:

¹ See Carl Snyder, "A New Index of the General Price Level from 1875," *Journal of the American Statistical Association*, June, 1924, pp. 189-195.

² See Carl Snyder, "A New Index of the Volume of Trade," *Journal of the American Statistical Association*, December, 1923, pp. 949-963. See also by the same writer, "The Problem of Monetary and Economic Stability," *Quarterly Journal of Economics*, February, 1935, pp. 173-205. For a review of this article, see Harold L. Reed, "The Stabilization Doctrines of Carl Snyder," *Quarterly Journal of Economics*, August, 1935, pp. 600-620.

1. Time deposits may, and often do, originate in the same way as demand deposits, that is, through bank loans. The borrower may not need to use the proceeds of his loan at once and may not be certain of the period when he will be required to draw against his account. If, for the time being, he leaves the proceeds of his loan in a time account, the depository bank is subjected to a lower reserve requirement and the depositor, perhaps, receives interest.

2. It would be difficult for any bank to refuse to convert its time deposits into demand deposits. In this respect time deposits differ from security investments, highly marketable though the latter may be. Security investments may depreciate in market value. That which is practically convertible without risk into something else is not much different from this something else.

3. Conversely, many demand deposits are held for the same purpose as time deposits, that is, to provide a fund for emergency use. While it is true that time deposits should be transferred to the classification of demand deposits if they are actively used, it does not follow that pressure will be exerted to induce holders of sluggish demand accounts to transfer them to the time classification. On the basis of activity, or, conversely stated, on that of the sluggishness of accounts, demand deposits at one time or place may include much that at another time or place would be held under the time classification. Statistical representations of changes in the volume of C might thus be distorted if C should be defined to include only one class of deposits, those in the demand category. To us it seems necessary to include time deposits in C and to allow for the greater sluggishness of time deposits under the heading of V .

Since different types of C have different rates of turnover, V , it may be desirable to classify C from the point of view of the method that will have to be followed in computing or estimating the V 's. Ordinarily there would be no point in dividing C into such groupings as silver certificates, greenbacks, coin, bank notes. It will be found, however, that to compute V it will be necessary to distinguish between bank demand deposits, bank time deposits, and coin and bills.

The general formula for the determination of the velocity of demand deposits, V_{dd} , is to divide average demand deposits over

a period of time into debits against these deposits.¹ Not all banks report debits regularly. But it has been discovered that the relationship of debits to deposits varies more or less uniformly with the population of the community served. By the application of this discovery it has been possible to estimate velocities for banks that do not report debits. It is probable that estimates of velocities of demand deposits involve little margin of error.

In the case of time deposits, V_{td} , it is necessary to rely on sampling deposits of particular banks. The procedure here is to compare the volume of withdrawals against time deposits with the average volume of the time deposits from which the withdrawals are made.

Greater difficulties have been encountered in estimating the velocities of coin and bills. Attempts have been made, however, to compare withdrawals of such currency from the banks with the total of such currency in bank tills. Allowance has also to be made for the turnover of such currency in the hands of the public during the period prior to its return to a bank.² Such estimates cannot be made with great precision. Fortunately, however, coins and bills are used far less as a debt-paying medium than demand deposits. Inaccuracies in estimates of the turnover of coin and bills, therefore, are not so important as otherwise they would be.

OTHER COMPLICATIONS

In the above it has been tacitly assumed that money payments are made on account of transactions that take place within the period to which the problem applies. This assumption, however, is generally somewhat incorrect. Money payments in period (2), for instance, will be made largely on account of debts incurred in period (1). To the extent to which this occurs the equation should be stated as follows:

$$C_2V_2 = P_2T_2 + De$$

when De refers to debts incurred in earlier periods that are

¹ See W. R. Burgess, "The Velocity of Bank Deposits," *Journal of the American Statistical Association*, June, 1932, pp. 727-740. See also Carl Snyder, "A New Index of Business Activity," *Journal of the American Statistical Association*, March, 1924, pp. 36-41.

² See Irving Fisher, *The Purchasing Power of Money*, pp. 448-477.

discharged in period (2). Other things equal, the greater the volume of debts brought forward for payment from a previous period the smaller PT will be. To express the same point in different words, currency employed to discharge old debts cannot be used so often to discharge debts incurred on account of current transactions. In opposite fashion, sales in every period give rise to a certain volume of debts that are not discharged until a later period. To this extent currency is released for more transactions in the current period, and PT may be larger than otherwise. The influence of the deferment of debt payments on PT depends, therefore, on the extent to which postponement of payment exceeds or is exceeded by payments for heldover obligations.

Two methods have been utilized to make adjustment for this type of complication. As illustrated, above, one method is to introduce a special term in the equation. The other method is to define the terms so that CV includes only that portion of total payments made on account of the discharge of debts resulting from the current PT and to have PT cover only transactions in which payment is received during the period.

Still other complications have to be considered. Money payments may be made as gifts, that is, without the delivery of a good or service. Money payments may also be made merely for the purpose of transferring funds to another country or community and to this extent are unrelated to domestic transactions. Finally, barter transactions do not require the transfer of currency.

For many reasons, therefore, the statistician is unable to do as precise a job in measuring the quantitative importance of the terms of the equation as is desirable. In few instances are the materials sufficiently complete and accurate to satisfy the fastidious investigator. But even though allowance has to be made for large margins of error the practical usefulness of the equation is not destroyed. To carry calculations to the limit permitted by existing information is better than to repose confidence in guesses that cannot even be translated into the terms of an equation we know must be correct. It is often true, furthermore, that changes in certain terms of the equation will be of such magnitude as to make certain at least the general direction in which the term in which we have special interest must vary.

In other words, unknown information may not be of sufficient magnitude to warrant distrust in the general conclusions that are reached. Finally, many of our problems are set in terms of what we expect to happen in the future. In the event that forecasters can agree upon the probable magnitude of the terms of the equation it is of some advantage to provide them with a formula that will require similarity of conclusions. If the terms of the equation are properly defined and are consistent with each other the equation must be correct. To deny its truth would be to contend that more currency can be received than is paid out, or less.

PT REFERS TO TRANSACTIONS

As above analyzed, the equation $CV = PT$ is a "transactions" equation. T is by no means synonymous with production or output. From period to period there may be considerable changes in the number of hands through which particular goods pass. In periods of active speculation, for instance, stocks and bonds are traded in far more frequently than in depression periods. Money payments are required not merely because more units of goods pass from hand to hand but also because the average unit has a higher turnover. Either type of expansion of PT , via more units or via more turnovers per unit, will require greater money expenditures, CV .

C AND P ARE NOT THE SOLE FACTORS

This chapter was introduced for the purpose of providing a means of determining the relationship of just two factors, C and P . As we have proceeded, however, it has become clear that all those forces which bear upon V and upon T must also be given consideration. Fluctuations in V and T are often excluded arbitrarily from consideration by relegating them to the grab-all account, "other things equal." For didactic purposes such procedure is sometimes defensible. Since, however, in the world in which we live "things" never are "equal" it is necessary to give full weight to changes in V and T , as well as to changes in C and P . Whether this destroys the usefulness of the equation will be discussed in the following chapter.

CHAPTER XIV

THE USEFULNESS OF THE EQUATION OF EXCHANGE

THE USEFULNESS, AS DISTINGUISHED FROM THE CORRECTNESS, OF THE EQUATION OF EXCHANGE

It has been argued that, since the transactions equation of exchange may be derived from the truistic expression $C_r = C_s$, there can be no question of its correctness if the terms are properly defined. Accuracy of definition refers principally to the consistent application of the terms P , C , V , and T to that portion of trade in which we are interested.

But how useful is the equation? This, it will shortly appear, is quite another question. From the point of view of its analytical value, however, the following contentions will be examined:

1. The equation is an aid to "static" analysis.
2. The equation contains constant terms, the elimination of which enables the student to focus attention on the remaining fluctuating and, therefore, vital terms.
3. The equation sets forth its terms in such a way as to facilitate the discovery of dominating terms.
4. The equation permits the terms to be arranged in ways that facilitate the discovery of typical relationships by inductive investigation.
5. Each of the terms summarizes the consequences of the operation of myriad factors, factors almost too numerous to catalogue. Any one of the terms of the equation may be considered as a convenient chapter heading under which the sub-headings can be discussed with less danger of inconsistent treatment.

After we have discussed each of these contentions we should understand better the limitations of the equation as a useful tool and be prepared to consider other approaches to the question of the determination of the value of the monetary unit.

STATIC ANALYSIS

In a four-term equation of the general form of $PT = CV$, it is possible to make any one term our quaesitum and relegate two of the remaining three to the clause "other things equal." The fourth factor would thus have to change either directly or conversely with fluctuations in the first term. To illustrate, if we assume that no changes are to occur in V and in T , P and C would have to change in similar degree and in the same direction. Since this is so, students often interpret the equation to be a demonstration of the quantity theory of "money" (currency). This ancient doctrine has come down to us in some such form as "other things equal, prices vary directly with the amount of currency in circulation." As an algebraic exercise, however, it would be just as permissible to hold C and V constant and to have P and T move conversely. Or P and V might be assumed to be constant, or to move in the same direction and in the same degree, so that C and T would be negatively correlated.

Static analysis of this sort is helpful, of course, in the preliminary study of any subject. But before he may be permitted to apply his conclusions to the world in which we live and have interest, the student has the further problem of determining that he has a right to stress one particular factor and to eliminate others from consideration by stipulation. The student would never consider vital such propositions as, "if heat were ice the equator would freeze." Nor would he think much is to be gained by contemplating that "if Negroes were Eskimos Liberia would be an arctic settlement." Unreal hypotheses are serviceable only in the realm of didactic exercise. Perhaps, however, it would be better merely to say that such exercises are only preliminary to the investigations that must follow.

Neither must static exercise be employed to suggest that the purpose of the analysis must be solely to explain changes in a single arbitrarily selected term. Perhaps we are more interested in P than in any other term. If so, we may be permitted to try to show how each of the other terms is related to P . But we must remember that we have an equal right to make any other term our quaesitum. The equation of exchange is not to be confused with the quantity theory of currency.

CONSTANT TERMS

If it could be shown that any of the terms undergoes in fact relatively little change that term could be eliminated from consideration and attention confined to the remaining terms. Until recent years there has been a tendency in some circles to regard V as a relatively constant term. It has often been argued that comparatively inflexible habits determine the ratio of individual pocket cash and of firms' "till money" to expenditures. If, for instance, the prevailing practice should be for such balances to average a twelfth of a year's expenditures, the ratio of C to PT would be 1 to 12, and V for the year would be 12.

The increase of information in recent years, however, has made it clear that other factors than habits and prevailing customs operate upon V . Among other considerations the height of V varies as expenditures of those with a low ratio of cash to expenditure increase in comparison with the expenditures of others. It will be pointed out later, however, that exceptional situations may alter tremendously the estimates that are made regarding the proper amount of balances particular situations require. With these experiences and these discoveries it has been shown to be improper to consider V , or any other term of the equation, as a constant.

DOMINATING TERMS

There is no denial of the fact, however, that some of the terms of the equation may be made to move within much wider ranges than others. Such terms may change so greatly in particular situations that it may be scarcely worth while to give consideration to the remaining terms. So far as C is concerned there is no limit to the extent to which it may be increased save the volition of the monetary authorities. No sovereign government can be required to maintain the gold standard or any other monetary system whose enforcement would restrict the growth of the currency volume to an unwelcome extent. This is one of the reasons why the quantity theory of currency has come down to us in a form that relegates important factors to the status of "other things equal." The "economists" of antiquity, as advisers of the crown, understood the importance of establishing the relationship of changes in the currency volume to the level of

prices. If the king wished to debase the currency to secure funds for his own benefit he certainly should be made to understand that the purchasing power of the people's currency would be reduced and that unfortunate consequences might possibly result.

In contrast with C , the goods which enter into a country's trade, T , cannot easily be increased by a sovereign's fiat. Production depends primarily upon such stubborn facts as the mental ability and physical strength of the people, their mechanical ingenuity and appreciation of the importance of enterprise. It is not easy to alter any of these factors to a tremendous extent in a short period of time. If this were not so the price formula that has been inherited would very likely have taken some such form as "other things equal, prices vary inversely with the physical volume of trade."

But even though extreme displacements of P might require, at least in the beginning, pronounced changes in C , conditions may develop in which the greatest quantitative changes are witnessed in the supposedly more constant term V . When a country is subjected to a long and pronounced financial strain with its international payment balance constantly and hopelessly in the red, confidence in the future purchasing power of the currency may be destroyed. People then despair of the ability of the government ever to get the budget in balance. They expect constantly increasing issues of government paper currency or of bank notes obtained by the government by the process of selling bonds to the banking system. In the declining foreign exchange value of the country's monetary unit the people have a definite, objective proof of the extent to which depreciation has developed. With every indication of further depreciation the practice strengthens of getting out of a currency that is falling in value and into goods that are rising in price. Wage earners rush home early to give their pay envelopes to wives to buy groceries; bachelors buy baby carriages or any other commodity that is available. It is as if a game is being played in which the holder of currency is "it."

The people as a whole, however, cannot release themselves from currency. The whole currency of the country at any given instant of time must be in someone's possession. Everybody is merely trying to do what the people as a whole cannot do, release

themselves from currency. It is the effort to get rid of currency, not the success that is achieved in trying to do it, that makes the volume of currency, great as it may be, a factor subordinate to V in the raising of prices.

Such abnormal situations have been termed "superinflations" by many economists.¹ They represent the worst of afflictions, being possibly more serious than the wars and pestilences the human race has been called upon to endure. Chief illustrations are provided by the collapse of central European currencies after the first World War. Germany in 1923 was obliged to convert its old paper marks into new gold-secured marks on the basis of a trillion of the old for one of the new.

There is no question of the immensity of the damage done to the economic fabric by such inflations. Even if distributive injustices be disregarded, the country's productive capacity is largely destroyed by the shortage of money capital, and fresh issues of currency only aggravate the difficulty. As the currency volume expands and destroys confidence in the future value of the monetary unit, prices rise faster than the supply of the payment media can be increased. In terms of the equation, V , not C , thus becomes the chief actor in the tragedy. It has been estimated² that, in 1923, German prices were inflated about 30 times the ratio of monetary expansion.

Another aspect of the superinflation distress is the difficulty that is experienced later in restoring the currency to a sound basis. With increasing unemployment and widespread suffering, resolution to adopt stern measures of budget-balancing weaken, and, at a time of a shortage of private money capital, the obligations of the government to provide employment for the people are increased greatly. Germany did succeed in restoring a temporarily sound currency in 1923. But at that time other nations, including the United States, helped to provide the financial resources for currency stabilization, and these outside nations were in a position to demand compliance with certain financial controls the German people would have been unwilling to impose upon themselves. If the United States should work itself into any such condition there would be no such outside resources upon which to draw.

¹ See Appendix, Chap. XIV, Note II.

² See Charles O. Hardy, *Wartime Control of Prices*, p. 34, footnote 2.

It is thus a virtue of the equation that it makes so clear the factor that can be made to dominate P . Currency expansion itself may proceed to a great extent and produce even greater changes in V . But our curiosity is not confined to periods of sensational fluctuation. We have an interest also in short-term and presumably less violent changes.

TYPICAL RELATIONSHIPS

The equation of exchange immediately suggests the importance of investigating inductively the relationships of the factors in these "more normal periods." Out of such a study a few general conclusions emerge. Thus:

1. In the case of gold standard currencies it is not easy to move price averages very far upward by the adoption of expansive currency policies. International competition operates to restrict increases in gold prices. An increased C would then have to operate largely on the remaining factors, directly on T or negatively on V . This is one of the reasons why price deflation and a burdensome debt structure are so likely to produce demands for a change in the monetary standard. All this is well illustrated by the American experience of 1932 and 1933.

2. In a period in which previously unemployed productive resources are being drawn into use a sustained advance in price levels is not so likely to result from expanding currency and credit. Although the credit that is distributed in productive expenditures enters into consumers' incomes at an earlier date perhaps than that in which the products reach the market, with the probable consequence of producing an early increase in price averages, a continued price advance is unlikely. In the recovery of 1922 (extremely rapid and sensational), for instance, the All Commodities Index Number of the Bureau of Labor Statistics advanced between June and July by 17 points (from 138 to 155). In December of 1922, however, the index stood only at 156 and later, throughout 1923, tended generally to fall.

3. In a period of relatively full use of our physical productive power, however, such as that of the summer of 1919, abundant credit is likely to correlate principally with rising commodity prices. If outputs cannot be expanded as fast as dollar purchasing power is increased prices tend to rise. Cheap credit operates to increase the competition of rival entrepreneurs for scarce productive agents, including labor, with the consequence of driving

up wages and other costs. Higher costs, through the force of competition, tend to get reflected in higher prices for the products.

4. A cheap credit policy initiated by the monetary authorities at a time of extensive financial and industrial disturbance, and particularly during a period of subdued entrepreneurial enthusiasm, may result principally in converse movements in C and in V . The summer of 1924 (a year of aggressive efforts by the Federal reserve banks to cheapen credit costs) and the whole period from 1932 to 1940 illustrate this phenomenon.

5. During a period of rapidly improving industrial technique and of the introduction of large-scale production economies an increasing currency volume may correlate with security and real estate price advances rather more than with higher prices for manufactured products. This was a large part of the story of the "new era," 1922 to 1929.

6. Generally, both C and V increase in booms and decline in depressions.

Such findings are derived from observation and inductive study. They are by no means of inevitable logicity. Many exceptions are to be discovered in history, and it cannot be guaranteed that changes in social institutions and in monetary policies may not alter future patterns. Take, for instance, the proposition that C and V both rise in trade booms. During the depressed conditions of the thirties efforts were made to increase the volume of currency with the consequence that cash balances were lifted relative to expenditures. A restoration of business confidence might result in a much more intensive use of existing balances. Little, if any, new credit might be required to finance a future boom. During the boom only V , and not C , might largely increase.

The inevitability of any such inductively obtained conclusions may thus be challenged. This, however, is no devastating criticism of the usefulness of the equation. It is worth something to have a device that facilitates factual study. Even if exceptions to findings are numerous, insight is gained by noting the peculiar circumstances that prevailed.

CHAPTER HEADINGS

The student should thus understand that, by learning to derive the exchange equation and to define its terms properly, he has made only a beginning in his study of price and trade fluctu-

ations. But when this is all said there is still much to offer in behalf of the usefulness of the exchange equation. Even if none of the preceding suggestions should be fruitful the case for the value of the equation is still strong. It serves at least to enable the investigator to arrange better the innumerable factors playing on prices, to discuss their interplay systematically, and to strike a net balance of their effects. In any given period the amount of rainfall, labor conditions, inventions, changes in manufacturing technique, gold flows, central banking operations, governmental regulative policies, tariffs, and myriads of other factors affect individual prices, the average of which is our so-called price level. How do these forces act and interact? Surely it is helpful to be able to compress them into a formula which we know to be correct.

THE ORDER OF CAUSATION BETWEEN CURRENCY AND PRICES

Much controversy has taken place in respect to another matter, the point from which disturbances to an existing price structure originate. In the opinion of many businessmen it is the level of prices that determines the volume of the payment media rather than the other way around. When prices are high the business manager may be obliged to borrow more from a bank to swing a particular transaction than when prices are low, and thus more deposit credit is brought into being.

It should be noted that the above proposition is more of an objection to the quantity theory of currency than to the equation of exchange. From a pragmatic point of view, furthermore, it may not make so much difference whether monetary policies and monetary phenomena exert a causal or merely a permissive influence. To permit that to occur which could be prevented is not greatly different from causing it to occur. Why did our shoe retailer agree to pay the manufacturer \$5, instead of perhaps only \$4, for a pair of shoes? The answer must be because he expected to be able to sell the shoes at a sufficiently high price to justify the cost price of \$5. Why were conditions such as to arouse his expectations that a \$5 price plus the necessary markup could be obtained on his own sales? It must be that money incomes had become such as to justify this expectation. Money incomes in turn are influenced by the volume of currency in circulation and its rate of turnover.

**THE NEED FOR FURTHER TOOLS OF ANALYSIS.
THE CAMBRIDGE CASH BALANCE APPROACH**

One of the most serious limitations of the transactions equation of exchange, however, is that it is a mere summation of results and is not in a form that conveys a challenge to the slothful to show how changes in the magnitude of the terms take place. What forces, for instance, bring more or less currency into being? Similarly, how does V , or T , become quantitatively what it is? To answer such questions completely requires more information than any economist can be expected to command. Nevertheless, other approaches may be helpful in revealing the forces which change the magnitude of the terms.

Significant here is the Cambridge cash balance approach that has been developed in the writings of such economists as Pigou, Mises, Robertson, and Keynes. The starting point in their analyses is an inquiry into the attitudes of individuals or individual firms regarding the sufficiency of their cash balances. We know that, when such balances are regarded as excessive, purchases of goods or securities are more likely to take place. When, on the other hand, cash balances are regarded as deficient, efforts will be made to increase them by such devices as selling more and buying less. Such efforts, however, cannot change the volume of total balances that are possessed. One person may increase his cash holdings by selling more goods. But the currency he receives is taken from some other person's balance. Contrariwise, the currency released from some balances will reappear in other balances.

But while such operations do not affect the amount of the total stock of currency in existence, they do change prices and/or trade. When the general disposition is to increase cash holdings prices or trade tend to fall. When, on the other hand, the prevailing endeavor is to get rid of cash, prices or the trade volume must increase. The changes induced in P or in T by efforts of holders of cash to bring their balances to the amounts required by anticipated expenditures operate thus to cause balances to become the equivalent of actual expenditures for a particular period of time.

What forces determine for different individuals the period for which cash will be held? A few that reduce the duration of the period and increase purchases are:

1. Regularity of payments into balances. The more regularly payments are received the less necessity that the payee maintain large idle balances for emergencies.

2. Accessibility of lending institutions that may be relied upon in the event of an emergency.

3. Loss of confidence in the future purchasing power of the monetary unit.

Converse conditions, of course, would increase the length of the period for which currency will be held and reduce purchases of commodities or securities.

The cash balance approach thus stresses individual attitudes and individual decisions. It, therefore, permits monetary theory to be tied up with the general laws of value. It makes it clear that C in the equation is not an abstract quantity but is an aggregate of cash held by the individuals who make up society. It requires analysis of the reasons why individuals at particular times will generally strive to increase or to decrease their balances.

Can the cash balance doctrine be compressed into a general form of the transactions equation? Let C be split up into the currency held by different individuals, as C_1, C_2, C_3, \dots . On the part of each holder balances will tend to be adjusted in such a way as to comprise a definite fraction (or, perhaps, if the period is short, a definite integral multiplier) of expenditures, PT . Call this multiplier of PT , K . Then $\Sigma C = \Sigma PTK$. Or, $C = PTK$.

If, now, K is a small fraction, perhaps a month, of the one-year period, C would be equal to $\frac{1}{12}$ of a year's expenditure. K , in other words, is $\frac{1}{12}$. If K , however, should increase, that is, become a larger portion of the period such as $\frac{1}{4}$, C would be equal to $PT/4$.

K , in other words, is obviously the reciprocal of V in the transactions equation. For if $C = PTK$, and if $C = PT/V$, then $K = 1/V$.

The Cambridge cash balance equation is especially serviceable in explaining developments during periods in which confidence in the value of the monetary unit is being destroyed. Then payments out of balances of frightened holders are extensive. Conversely, a period of reduced investment confidence witnesses the general effort to convert securities and other property into currency.

Another virtue of the Cambridge equation is that its form is such as to avoid giving the impression that currency is constantly

and incessant on the wing. The transactions equation of the form $PT = CV$ conveys just such an impression to the beginning student. It might be helpful to the student to define the period so that, in it, each currency unit would pass hands but once. Then C would equal PT . But, in the Cambridge equation, however long the period, K is merely the ratio of cash holdings to expenditures.

While the cash balance approach compels analysis of individual decisions, it contributes little to the understanding of other factors. What, for instance, would be the response of producers to an enlarged monetary demand for goods? Would producers be able to fabricate more goods on terms of increasing, or of decreasing, costs? What, moreover, would be the effect of changed costs upon producers' price policies? Although the cash balance equation compels analysis of some of the factors lying behind the terms it is no better than the equation it supersedes in respect to the analysis of other factors.

INTEREST RATES AND THE SUPPLY OF CURRENCY, CONTRASTED

In another direction, also, enthusiasm in respect to the fruitfulness of an analysis of forces lying behind the terms of the transactions equation has led certain scholars to attribute revolutionary significance to their purely supplementary labors. Thus J. M. Keynes in his *Treatise on Money* maintains that the state of interest rates, the "bank rate," holds the key to expansions and contractions in the currency volume and in the accompanying changes in trade and prices. In developing this point of view Keynes protests against the opinion that he is only elaborating upon old methods of analysis. He insists that he is asking his students to discard old tools and take up a new weapon with which to attack price and output problems.¹

There is no question but that fruitful results are obtainable by concentrating upon interest rates as a factor contributing to credit expansions and contractions. In thus proceeding it may be demonstrated more fully that interest rates are intimately related to activity in that portion of our economy in which output fluctuations are the greatest. This segment of industry lies in the general field of forward-looking capital expenditures. If cheaper rates encourage the borrowing and the distribution of

¹ See *A Treatise on Money*, and also, "The Pure Theory of Money. A Reply to Dr. Hayek," *Economica*, November, 1931, pp. 387-397.

more credit, incomes of labor and of the owners of other productive agents are enlarged. The expenditure of these incomes stimulates in turn the demand for a wide variety of products. A typical pattern for an upswing would be, first, lower interest rates and increased capital expenditures, thence an enlargement of incomes, and, eventually, if the stimulation is sufficiently intense, a rise in commodity prices.

Much controversy has recently taken place in the matter of the relative importance to trade fluctuations of interest rates and other forces. In the opinion of perhaps a majority of economists in this country interest rate changes are comparatively unimportant. Much more significant, these argue, are labor conditions, cost-lowering technological improvements, inventions, and governmental attitudes toward private investment. Of course, if these latter factors are assumed to be constant, the dominating consideration would have to be the cost of credit.

It is suspected by the writer that the tendency, especially strong among foreign economists, to exaggerate the influence of interest rates is to be attributed largely to the background of the promulgators of the doctrines. Most economists have only a fragmentary understanding of technological developments and, in the field of labor policies, have been devoid of large influence. Scientific technique, invention, and wage policies they have been obliged to take more or less for granted. Economists interested in stabilization have therefore been impelled to look into the field of monetary policies and central banking operations to find the machinery for realizing their ideals.

Whatever fruit the newer approaches may bear, however, requires no denial of the usefulness of the transactions equation of exchange. This formula, correctly interpreted, should be an invitation to economists to engage in whatever investigations and to provide whatever auxiliary tools of analysis are required to explain why the terms of the equation come to be quantitatively what they are.

THE METALLIST DOCTRINE AGAIN

In periods of serious price deflation and of highly burdensome debts contracted at a higher price level questions of monetary relief become uppermost in the discussions of the day. On such occasions a variety of remedies will be suggested for the purpose

of lifting prices through the injection of more currency into circulation. If the nation's monetary unit, however, is convertible into a given amount of gold, there is a limit to the extent to which such injections can be provided without taking the nation off the gold standard. Since gold has a world value no particular nation can lift its prices far above those prevailing in gold standard countries. The most inflationary-minded groups will be inclined, therefore, to demand a debasement (in terms of the standard) of the monetary unit. They will not be satisfied with such restricted degree of currency expansion as otherwise could be provided.

On such occasions, for purpose of simplicity of doctrine and accompanying expositions, the radical inflationary groups may find it expedient to eschew the quantity of currency explanation of price determination and to substitute therefor some form of a metallist doctrine. Under this doctrine it will be proclaimed that, since goods exchange fundamentally against gold, effective stimulation of prices requires an increase in the number of monetary units contained in a given amount of gold.

Whether an abandonment of the previous standard is required cannot be discussed save in reference to particular situations. What must be made clear, however, is that the difficulty of raising prices, if the standard is to be maintained, does not establish the truth of the metallist doctrine. The gold standard is fundamentally a device for restricting the volume of the currency that represents gold. To depart from this standard, or to lower the gold value of the monetary unit, would enable the country to increase the volume of its currency. A devaluation in gold, moreover, might possibly through the influence of exchange depreciation put into operation forces that would increase the demand of business for currency. But the effect of increases in the currency volume thus generated could still be analyzed within the framework of the equation of exchange.

It must also be borne in mind that an increase in the currency volume might still be possible under the old gold standard. What might be required would be that a particular nation expand its currency at a faster rate than other members of the gold standard world. But if all nations should expand their circulations equally, the effect might be higher prices all around. In such a situation the metallist would say the value of gold had

changed. But as we have analyzed the problem what brought about the change in the value of gold was an increase in the amount of currency that represented gold.

REFERENCES

For a statement of a metallist type of price theory, see:

J. L. LAUGHLIN, *Money and Prices*. On p. 7 Laughlin defines price as the exchange ratio between other goods and a given quantity of a standard commodity, like gold.

The high mark in the development of the equation of exchange type of analysis is provided in:

IRVING FISHER, *The Purchasing Power of Money*.

For a scholarly refutation of the contention that J. M. Keynes' doctrines require the abandonment of the equation of exchange apparatus, see:

ARTHUR W. MARGET, *The Theory of Prices*.

For an explanation of the Cambridge cash balance approach see:

L. V. CHANDLER, *An Introduction to Monetary Theory*.

LUDWIG VON MISES, *The Theory of Money and Credit*.

A. C. PIGOU, "The Value of Money," *Quarterly Journal of Economics*, November, 1917, pp. 38-65.

D. H. ROBERTSON, *Money*.

CHAPTER XV

THE SOURCE OF BANK DEPOSIT CURRENCY

FACTORS AFFECTING BANK RESERVES—THE INDIVIDUAL BANK VERSUS THE BANKING SYSTEM

It has been pointed out frequently that bank deposits constitute our principal payment medium. It is therefore necessary to return to a study of the processes by which this deposit currency comes into and goes out of existence. This, it will shortly appear, is a more complicated question than surface considerations would suggest. Our main *quaesitum* in this chapter will be to identify those banking operations which give rise fundamentally to the outstanding mass of bank deposits. In other words, we shall try to distinguish between the processes of generating and of distributing bank credit.

One of the ways by which bank deposits arise is through loans, and the maximum extent to which deposit currency can thus be provided is set by the amount of bank reserves. It is therefore in order to inquire first as to the causes of changes in bank reserves.¹

We are not yet ready to go into this question thoroughly. The principal sources of reserve changes for the banking system as a whole, however, are, first, movements of circulating currency to and from banks, and, second, operations of the country's central banking system.² Under the latter heading member banks may obtain reserve credit by borrowing from the reserve banks. When they pay off their debts to the reserve banks, member banks lose reserve credit. Similarly, a purchase of certain assets from member banks or from member bank depositors by the reserve

¹ The principal reason why the term "reserves" is used instead of "redemption currency" is that, in the case of such banks as are members of our Federal Reserve System, reserves consist of credits on the books of the reserve banks. These credits ordinarily cannot be transferred to member bank creditors. They first have to be converted into a form of currency the public can use.

² See below, Chap. XXIV.

banks increases member banks' reserve credit, while a sale of assets by the reserve banks operates to diminish member banks' reserves. These matters will be gone into more thoroughly later.

The above forces have to do with the size of the reserves possessed by the aggregate of the country's banks. But there are ways by which one member bank may gain or lose reserve at the expense of other member banks. The principal way is through clearances. Banks that in check collections acquire more credits than debits gain reserves. A debit balance, on the other hand, reduces a bank's reserve. A decrease in reserves compels a bank to be more conservative in granting the loans that set up deposits. Conversely, a gain in reserves permits a bank to increase its loans.

Since a bank's earnings depend on the volume of its loans and other earning assets competition is severe between the banks to become the public's preferred depository. This follows from the fact the deposit at a particular bank of checks drawn against other banks results in a shifting of reserves in its favor. To attract deposits banks do many things. They keep on the lookout for customers whose business is increasing; they offer a varied type of financial service to depositors; they strive in many ways to create an impression of great financial skill and strength. Success in measures of this sort provides the distinction between the growing and the contracting bank.

In a banking system composed of a large number of institutions, deposits are thus to be considered more in the light of what is derived from the proceeds of other banks' loans than as generated by the bank in its own lending operations. In order that a particular bank may grow in size it is necessary that other banks create through loans the deposits that are abundantly transferred to it. The principal source of any one bank's deposits is thus the credit advances of other banks.

DEALERS VERSUS GENERATORS OF DEPOSIT CURRENCY

Many types of institution, however, make loans and provide deposit credit. Are all of them of equal importance as creators of the deposit currency that gets transferred among different banks? Do particular banks merely deal in the deposit currency other institutions are responsible for creating? Are all lending institutions to be regarded as generators of deposit credits? If

some are merely dealers and others are generators, what characteristics of their operation make them so?

That these are difficult questions is suggested by the mere fact that loans can be obtained from so many different sources. If I am in need of a temporary advance to enable me to meet a medical bill I might appeal to a personal friend, to a personal loan company, to a Morris Plan industrial bank, or to the personal loan department of a commercial bank. In seeking funds to improve or erect a dwelling I might make application to a savings and loan bank, to a mutual savings bank, to an insurance company, or to a "commercial" bank. Even a business loan might be obtained from some other institution than a commercial bank. To place a mortgage on my home may release my own funds for a business operation.

The individual who lends to a personal friend would not appear to be among the agencies responsible for the creation of deposit currency. No one disputes that such a lender merely transfers to others the deposits that have originated in a prior banking transaction. If some bank had not made a particular loan the specific deposits which by devious routes came into the possession of the lending individual would not have been created. The individual lender is thus only a distributor and not a generator of deposit credit.¹

What, however, would the individual have to do to become an originator of deposit credit? The answer is that he would have to make others willing to consider his obligation as the equivalent of lawful or conventionally recognized currency. If he could do this on a sufficiently large scale he might be extensively utilized as a depository by the public and thus get in a position to issue his own promises-to-pay (credit) as the equivalent of other forms of currency. But in order to become accepted as a desirable depository it would be necessary that he do many things for which he ordinarily is ill equipped. He would have to gain legal permission to do a deposit business; he would be required to submit to periodic examination and regulation; he would have to maintain a sufficient cash reserve and arrange the maturities of his earning assets from the point of view of, not his own personal investment needs, but the character of his

¹ In Chap. XL reform suggestions are based largely on the distinction between deposit-generating and deposit-distributing banks.

liabilities. It would not do, however, for him to go halfway in these measures. For then the preferred depositories would constantly be gaining cash from him in clearing settlements. Debit balances would prevent him from developing his business to a point at which there would be compensation for the necessary expenditures. A succession of debit balances would bring him to the point at which he could lend only his own personal resources. He would then have developed no power to emit credit.

Can a savings and loan bank, for instance, become an approved depository? Such an institution may be permitted by statute to receive deposits in a disguised form. Savers purchase shares, and the proceeds of these shares are lent to home builders. Credits on shares, however, may be withdrawn under varying conditions. Shares can also be assigned. Why, then, is such an institution not employed so thoroughly as a depository that it takes its place among the institutions that generate as well as deal in deposit credit?

The answer is that such an institution is either not sufficiently well equipped as a depository to be able to compete on even terms with other depositories or that, for reasons of its own, it imposes restrictions on the withdrawability of shareholders' credits. The purchaser of a savings and loan bank share deposits circulating currency or draws a check against another bank when he acquires his share. By the redeposit of this cash the savings and loan institution builds up a balance with a commercial bank. When a loan is made by the savings and loan institution the borrower, that is, the home builder or contractor, is provided with a check against the account of the savings and loan bank at another depository. Savings and loan associations are primarily dealers in, rather than generators of, deposit credit.

To illustrate, let us suppose that certain depositors of Bank *A* transfer \$500,000 to the savings and loan bank. Suppose also that the S and L bank uses Bank *A* as a depositor. As a result of this operation Bank *A*'s condition is not changed. It now owes \$500,000 to the S and L bank. But it owes its other depositors that much less.

When the S and L bank makes building loans and when checks are drawn against Bank *A* the reserve cash of Bank *A* will diminish. But the same result would obtain if the depositors in Bank *A* had made the advance to home builders. What the

S and L bank really does, therefore, is to mobilize deposits for a specified purpose. In so operating the availability of credit to home builders is increased. Home builders would presumably find it more difficult to borrow from individual and scattered depositors of Bank A than from the S and L bank. The supply of deposit credit in the community, however, is not directly affected by the existence of the S and L bank. The velocity of credit perhaps is. But the S and L bank, nevertheless, is a dealer in, not a generator of, credit.

What is said above in relation to the nature of the operations of the S and L bank would also apply to other institutions like finance companies and insurance companies, not set up to be depositories of active funds. But what about savings banks like the mutual institutions of New York State? These institutions are depositories, but they are intended to service only savers, and their deposits are not of the demand category. Their place in the credit system calls for separate analysis. Since savings banks' deposits are not of the demand variety we shall inquire first if it is not this fact that explains the auxiliary character of savings-bank operations.

TIME VERSUS DEMAND DEPOSITS

Are the basic deposits of our credit system demand and not time deposits? So it is often averred. But this question also is not so simple as is often assumed. It is true that in most loans commercial banks provide demand deposits. But there are exceptions. It previously has been pointed out that the borrower may require bank credit even in situations in which such credit will not be immediately used. Often credit is obtained to provide against unlikely but emergency needs. In line-of-credit operations, moreover, a condition attached to the granting of the loan has customarily been that a deposit balance will be maintained by the borrower to an amount equal to a certain percentage of the line. In such situations the borrower might take out the proceeds of a loan in a time, instead of in a demand, deposit or a portion of a demand credit might be almost immediately converted into a time account. The same result thus occurs as if the time account had been originally created.

It seems thus to be incorrect to regard time deposits as entirely derived from demand deposits. Neither is it accurate to

regard time deposits as exclusively the result of savings out of income.

In conformity with this view Mr. B. M. Anderson has called attention to some interesting developments in the seven or eight years preceding 1929.¹ He shows that the outstanding volume of deposits was then usually responsive to Federal reserve policies which had the effect of increasing member bank reserves. He also points out that, in periods of rapid expansion, time deposits of member banks rose even more sharply than did the savings deposits of the mutual savings banks. The genesis of time deposits is thus not always different from that of demand deposits. Even though they may be derived from demand deposits it must also be kept in mind that some demand deposits are derived from savings deposits. Making a distinction between time and demand deposits does not get us very far in the task of identifying basic operations. The part that savings banks play in the world of credit is determined therefore not by the fact that they grant time, instead of demand, deposits, but by the fact that they are not fully equipped depository institutions. But if they were permitted to do a full deposit business the result would be the same as if more depository institutions had been authorized to operate.

Institutions which do not provide a full range of services, the most important of which is the privilege of drawing checks, will not be used by depositors save to obtain the restricted services they are able to render. The resources of the savings banks are therefore principally derived from deposits created by institutions better equipped to render the services the depositor requires. Savings banks function in much the same manner as the savings and loan bank in the illustration cited above. But this is not to conclude that in fully equipped depositories deposit credit may not have had its genesis in an operation that gave rise to a time account.

It is true, however, that savings banks, even though their loanable resources are derived from the credit generated by other banks, may increase the availability of credit.² Let us

¹ "A Critical Analysis of the Book by Lauchlin Currie; *The Supply and Control of Money in the United States*," Address before the New York chapter of the American Statistical Association, Apr. 26, 1935.

² It is conceded that, in mobilizing credit, savings banks may lessen the demand for loans from depository institutions.

suppose the F. N. Bank of Xville is loaned up. It therefore cannot increase its deposits through loans. Suppose now that depositors in the F. N. Bank transfer their deposits to the savings institution. If the savings bank keeps its account with the F. N. Bank the condition of the F. N. Bank is not fundamentally changed. What principally happens is that it owes more to the savings bank and less to other depositors. If the savings bank should keep its account in some other bank the reserve of the F. N. Bank would be diminished. But this would be offset by the gain in the reserves of the other correspondent of the savings bank. From the point of view of the banking system as a whole the increase in the deposits of the savings bank means only that this latter institution has more to lend. As its loans are used the funds paid out are redeposited in other banks better equipped as depositories. The effect of the operation of the savings bank is thus only to increase the availability of credit. It is easier for borrowers to apply to the savings bank than to get in effective touch with a large number of miscellaneous depositors of the F. N. bank of Xville.

OFFICIAL REGULATION OF TIME DEPOSITS

Why do lawmakers and supervisory authorities in this country make such strenuous efforts to prevent the misuse of time deposits? Though not related directly to our main problem this is a question to which some attention will have to be given somewhere.

We may begin by noting the nature of the supervisory controls.

Take the mutual savings banks of the state of New York. Law limits the maximum single deposit to \$7500. A withdrawal requires the presentation of the passbook. Corporation and other business accounts are frowned upon, as a matter of fact at least as much by the encouraged cooperation of the state association of savings banks as by the examination authorities. These restrictions, in addition to the close regulation of permissible investments, indicate society's interest in the small saver. In theory the savings bank depositor is a ward of the state.¹

¹ Sometimes the theory breaks down. This is perhaps the situation when a legislature like that of New York in 1940 opens up to savings bank investment "stock" in low-cost housing projects. Although it was specified that such investments must conform to regulations of the State Banking Board

A few years ago one of the metropolitan savings banks worked out a plan whereby certain of its depositors' living expenses, including such items as telephone and electric light bills, could be defrayed by charging customers' time accounts. This plan was justified on the ground of the economy it would promote. It was contended that wasted effort could be eliminated by merging depositors' bills due to particular firms into single debits at monthly intervals and by having the savings bank write one check for the total. The balances of individual depositors would then be charged. The legality of this practice was denied by the state banking authorities on the ground that it would break down the distinction between savings and checking accounts.¹

What about restrictions relating to time accounts (special interest accounts) in commercial banks? Neither national nor Federal reserve member banks are subjected to any restrictions having to do with the maximum amount that may be accepted for a single depositor. Thirty days' notice a bank may indeed require before withdrawal will be permitted. In practice, however, it has not been generally feasible for hard-pressed banks to require such notice. To invoke notice would tend to create bad public relations. It might also lead to extensive withdrawals by demand depositors, at least in the case of banks whose deposits are not insured by the Federal Deposit Insurance Corporation.

Checks against time accounts, however, require passbook presentation, and bank examiners discourage the practice of leaving passbooks at the bank. Checks against time accounts usually cannot pass through clearings. Examiners also criticize severely the mere fact of "high activity" in savings accounts.

What is the theory behind such rules and regulations? In part there is the opinion that special types of investment should make up the portfolio if interest is to be paid the depositor. It therefore is essential for a bank to know precisely what volume of deposits is entitled to rest in the time classification. There is the further fact that lesser reserves are required against time than against demand accounts. A country Federal reserve member

it still appears that enthusiasm for low-cost housing rather than protection of the savings bank depositor was the dominant consideration.

¹ See Appendix, Chap. XV, Note II.

bank, for instance, is compelled to maintain a minimum reserve of 14 per cent of its demand accounts, but only a 6 per cent reserve against time deposit balances. The deposit that is used actively should be required to keep the largest reserve because withdrawals impair the reserve position of the bank.

DEPOSITS DO NOT ARISE SOLELY THROUGH LOANS

Thus far it has been assumed that deposits have their origin solely in loans. (It has also been assumed the deposits arising from the receipt of circulating currency are unimportant.) Unless this statement is qualified it will be necessary to define loans so broadly as to cover any asset to acquire which banks provide deposit credit. Since it is customary to distinguish between loans and investments, let us maintain this distinction here. It will be shown that some differences in results are traceable to the superior marketability of bonds.

In the matter of the relationship of investment purchases to deposits four situations may be distinguished. First, banks, directly or through the instrumentality of third parties, buy previously issued bonds from other banks. Second, banks purchase from the public investment securities we shall assume to be of earlier issuance. Third, banks purchase new issues put out for the purpose of financing a business expansion. Lastly, we shall assume the purchased securities to be new Treasury obligations.

Suppose Bank *A* is short \$100,000 in reserves, and Bank *B* is \$100,000 in excess of requirements. If, now, Bank *A* sells \$100,000 of its holdings to Bank *B* (and there is no offsetting operation) the reserve shortage of *A* and the reserve excess of *B* will disappear. *A* gives up \$100,000 of bonds and collects \$100,000 of reserve credit from *B*; and *B* increases its bond portfolio and has its reserve reduced by the same amount. These results are brought about, of course, through the clearing system, in most instances through that provided by the Federal reserve banks. Interbank operations of this sort, therefore, do not generate deposit expansion except insofar as the bank gaining reserves has the lower reserve requirement. Any such differences in reserve percentages will be disregarded in this chapter.

Suppose again Bank *A* has excess reserves of \$100,000. It, therefore, buys this amount of bonds from one of its own deposi-

tors, Mr. X. X's deposit is increased \$100,000, and the bank's reserve requirement is enlarged by a certain fraction of this sum, say \$20,000. Its excess reserve would then be \$80,000. Under a 20 per cent minimum reserve requirement Bank A would be able to purchase \$400,000 more of securities from its own depositors before its excess reserve would disappear. But this \$400,000 of new deposits might be checked over to other banks. The deposit expansion of \$400,000 would tend therefore to develop slowly and throughout the entire banking system.

Above it was assumed that the bonds Bank A purchased were old issues. Suppose, however, they were part of an expansion issue of a business corporation. In this event, the proceeds of the purchase would shortly be paid over to landowners, contractors, laborers, and others. The laboring classes would be more likely than other classes to carry increased amounts of cash in pocket. To this extent credit expansion would be restricted. But even if the entire proceeds of Bank A's purchase should be kept in tills and pocketbooks it would still be possible for circulating currency to be expanded by \$100,000. Bank A could lose that much of its reserve without incurring a deficiency.

Purchases of securities from the United States Treasury would transfer reserve credit from the banks to the Treasury. But when the Treasury expends the proceeds and recipients of the expenditure make their deposits, the banks regain their lost reserves. The Treasury thus serves as an intermediate agency generating an increase in deposits.

It is, therefore, in large part through purchases of bonds from depositors, and under certain circumstances from the Treasury that deposit expansion is generated. In the above illustrations it would make no difference in results if the purchaser and the seller of the securities should deal through a third agency such as an investment banking house.

What, on the other hand, results from the sale of bonds by banks? No important system change proceeds from the sale of bonds by one bank to another bank. What Bank A sells, B purchases. A sale of securities by Bank A to a customer, Mr. X, reduces X's deposits and releases reserves to a fraction of the amount of the sale. X may be assumed to be a business corporation or an investment banking house. When a Treasury issue held by a bank matures, the transaction may be regarded as a

sale by the bank to the Treasury because the Treasury is obligated to pay the principle sum due. Ordinarily such maturing issues are taken up out of the proceeds of new Treasury flotations.

These illustrations show that in some instances the word "bonds" might be substituted for the word "loans" in the table on p. 38, in which it was explained how surplus reserves might result in the generation of a multiplied amount of deposits throughout the banking system. In the case of bond operations in which one bank is the seller and another bank the buyer, however, the result is only to redistribute reserves.

TYPICAL MEANS OF READJUSTING RESERVES

What will a bank do that is possessed of surplus reserves? Will it buy corporate or government securities? Will it strive to increase its loans to business customers, or even to consumers? Or will it ride along with surplus reserves?

At the present time¹ the general complaint in banking circles is over the lack of a heavy demand for short-term business credit. When this condition prevails banks, of course, will intensify their efforts to increase their loan portfolio. But competition for prime paper is severe, and in situations where competition does not force a bank's hand completely there will be reluctance to go after more loan business by lowering rates. To lower rates on marginal applications might compel rates to be reduced on old loans, at least as these latter mature and as applications for renewal are made.² The gain in loan volume might not lead, therefore, to increased earnings. In highly competitive situations, banks, nevertheless, will take into account the relationship between local loans and deposits. As a rule borrowers maintain deposits in the institution that at one time or another had provided them with credit accommodation. On the other hand, only a few banks in the country could purchase enough corporate bonds to enable them to make an effective appeal that the obligor select it as its depository.

Let us assume, however, that the institution in which we are interested is either unable, or for some reason finds it disadvan-

¹ Conditions are changing so rapidly that "the present" should be identified with—say—1940, rather than 1942.

² Sometimes a rate reduction on new loans creates demands for rebates of interest on old loans.

tageous, to adopt policies that will increase its holdings of local loans. In this situation it must be through the acquisition of marketable securities, largely in the investment centers, that the bank puts its surplus reserves to work. A sufficient portion of such investments should be of the type that will withstand market losses in the event that the bank later on undergoes a reserve deficiency. Banks generally prefer not to disturb the loan portfolio simply to restore a temporary reserve shortage.

In a situation like that recently prevailing, however, with high-grade, short-term issues yielding a negligible return, a bank holding excess reserves may prefer to stay with its cash. In adopting such a policy the bank is dominated by bear sentiment. It believes that more is to be gained by waiting for a fall in the market prices of securities than by keeping its funds completely at work in the period preceding an expected market decline. When banks thus elect to hold idle reserves they are not generating deposit credit.

SOME CONCLUSIONS

A few of the generalizations of the above analysis may be repeated:

1. Deposit banks occupy a basic position in our credit structure. It is the willingness of the public to use their deposits as currency that permits the expansibility of reserves.
2. Nondeposit financial institutions are not responsible to any large extent for the outstanding volume of credit.
3. Such institutions, nevertheless, may facilitate the mobilization and distribution of otherwise-created credit.
4. The distinction between generated and derived deposits, however, does not precisely correspond with that between demand and time deposits.

CHAPTER XVI

LOCAL LOANS AND MORTGAGES—THE TREND TOWARD MARKETABLE INVESTMENTS

LOCAL LOANS IN RELATION TO OUR BANKING STRUCTURE

At the present time loans of member banks of the Federal Reserve System, the greater part of which originate in local markets, amount to only two-thirds the dollar value of their holdings of investment securities. Although banks' security holdings are the larger, loans deserve first place in a discussion of the processes by which the circulating medium is provided. Loan considerations have a close bearing on the type of banking system that will be approved. In the making of loans the banker more often relies upon his personal estimate of the financial strength and character of the borrower, and it is contended by advocates of the unit banking system that such estimates can be made better by the officer of a locally owned institution than by a branch of a bank with an outside head office. Security analysis, on the other hand, is a purely impersonal operation. Were the sole functions of banks those of receiving deposits and investing the proceeds in the easily rated capital issues of business and municipal corporations, a large part of the justification of the independent unit system would disappear.

There is another respect in which loans are especially important. Bankers generally do not ignore the fact that the institution that grants a credit is also likely to be chosen as a depository. Relatively seldom does this factor enter into the selection of an investment issue.

BASIC PRINCIPLES OF LOAN GRANTING

What principles are approved in the analysis of loan applications? The principles that apply are fundamentally derived from the fact that a deposit bank is a type of financial institution the greater part of whose loanable funds come from

depositors rather than from share owners of the bank. It, therefore, will not do for a bank ever to plead that the resources available for depositors have shrunk less than the average of market quotations of investment securities or that, in a period of falling prices, the "real" purchasing power of deposits has been maintained. By some device or other the bank must have currency always available for its depositors and yet, at the same time, earn sufficient revenue to meet operating expenses as well as satisfy stockholders' demands. Types of assets that are permissible for individuals or investment companies might not be at all of a bankable character.

To be able to preserve the quality of its assets, therefore, a deposit bank must restrict its "long" positions. It must be cautious about commitments that will pay out only if the enterprise is a permanent success. The bank must be constantly in a position to adjust its credit lines to the changing condition of the borrower.

By what devices can a bank protect itself against the consequences of a borrower's eventual losses? It might be required, of course, as a condition to the granting of a loan that a lien be given to specific property possessed by the borrower. Readily marketable securities might be hypothecated, receivables assigned, a building mortgaged. If, by these means, ample security is provided it may be unnecessary for the banker to engage in other than perfunctory analysis of the borrower's financial condition. But in innumerable transactions it is impossible for the borrower to provide sufficient special collateral, and account has also to be taken of the risk of wide fluctuations in the market value of the hypothecated security. The banker is then required to assure himself that the borrower will be able to liquidate his debt to the bank as a result of his current operations. If the borrower's liquidity is not otherwise ample it will be especially necessary for the banker to inform himself of the particular uses that are to be made of the proceeds of the loan.

What uses of bank credit will be regarded as legitimate? Doubt arises regarding the soundness of a loan when the proceeds are employed to install machinery, to improve a site, to acquire real estate. Machinery, buildings, and land are capital assets whose acquisition ordinarily should be financed by those willing

to be long-term creditors or by the proprietors themselves. As a supplier of short-term capital the bank expects that the proceeds of a loan will be invested in the type of assets which, through their normal use, place the borrower more or less automatically in a position to repay.

But the principle of automatic liquidity should not be interpreted narrowly. It does not mean that only the distributor of finished goods—the jobber, retailer, or wholesaler—is to be accommodated. Manufacturers may be financed under the principle provided that, as a result of the credit, salable goods are fabricated. Pay-roll expenditures may be a proper justification for a credit application to a bank of deposit. Even though labor is not to be sold, the products of the labor are. Similarly, farmers may be financed, particularly in their growing seasons. Since farm crops require labor, and since the farmer himself and his family ordinarily contribute much of the labor, it is not entirely heterodox to finance a portion of the farmer's living expenses.

MATURITY CONSIDERATIONS

It is not enough, however, for the banker to assure himself that the general purpose for which the credit is required is legitimate. If the note's due date is far ahead the borrower's ability to repay may not be tested with sufficient promptness. It is important, therefore, to inquire as to the principles governing the maturation of the loan that is requested.

The usual statement on this matter is that the maturity should not exceed the time customarily required to enable the borrower to sell the goods acquired by the use of the credit. But since the borrower's terms as a seller may be adjusted somewhat arbitrarily to meet the banker's requirements, the rules that are followed are more or less conventionally derived. These rules have their origin in the practices that prevail in the industry. In separate lines of trade different periods of credit are customarily respected. But the most efficient traders will not have to depend so much on offering prospective buyers lenient credit terms to be able to effect sales, just as the stronger buyers will not require so prolonged periods of payment. What bankers really mean by such expressions as "normal" periods of payment are those periods established by the sounder elements

in the trade. To extend the date of payment is to relax credit terms, and this relaxation is one characteristic of an inflationary situation. However this may be, standards accepted at a particular time provide some basis for credit decisions.

What is accepted as legitimate and proper at one time may be gradually and imperceptibly modified. It is a fair question to ask whether any forces operate to prevent eventually the complete obliteration of credit standards. One point is that, in business recessions, the collection difficulties that are experienced by banks are often such as to encourage them to return to earlier and stricter terms of credit-granting. There is the further fact that the automatic liquidity doctrine cannot easily be interpreted so as to justify credit lines that are not at least considerably reduced some time within the current year. It is common for bankers to insist that there be periodic cleanups. But such cleanups may be effected not so much through sales of inventory and collection of receivables as by shifting borrowings to other banks or by utilizing devices, such as neglecting necessary maintenance, that do not improve the credit user's liquidity position. Such methods of reducing a bank line may be satisfactory to the bank desirous of closing out a credit, but they do not establish the fact of the liquidating character of the borrower's obligations and of the borrower's right to continued credit accommodation.

Helpful also to the maintenance of credit standards is the seasonality theory of the permissible use of bank credit. Under this theory it is the rather large concentration of buying for stock in particular seasons of the year and the lack of synchronism between sales and purchases that establishes the right to credit. Obviously, intrayear fluctuations do not justify long-term credits.

USE OF FINANCIAL STATEMENTS

How important is it for the banker to assure himself of the commercial as distinguished from the capital use of the proceeds of a *particular* loan? This question arises because what would seem to count would be the totality of the borrower's operations rather than isolated transactions. If a borrower should use the proceeds of sales largely to install machinery and depend on bank borrowings to meet his own trade debts the results

might be the same as if conditions were reversed, that is, if the machinery had been purchased with proceeds of the loan and goods for stock paid out of the revenues of sales. Then, again, a strong liquidity position resulting from the buyer's past operations would render it somewhat academic to inquire too closely into the use that is intended from the proceeds of a single borrowing. Obviously the ability of an applicant to meet current obligations can be determined only by ascertaining his general accounting position.

One of the significant developments in modern credit analysis has been the increasing use that is made of financial statements supplied the bank by the borrower. Credit for this development goes not only to bank credit analysts, but to the Federal reserve banks organized in 1914¹ and to the various supervisory agencies. The tendency in examination circles is to regard loans not specifically collateralized as unsupported unless a sworn financial statement is on file. Borrowers' opposition to supplying statements, however, and competition among bankers have slowed the process.

Especially important in the analysis of financial statements is the amount and composition of the "current assets," including receivables, cash, and inventory, in relation to the current liabilities, comprising notes and accounts payable to banks and to the trade. This is not to imply that "fixed" assets such as land, buildings, and machinery, as well as long-term liabilities in the form of bonds, notes, and debentures, are unimportant. Other things equal, the larger a credit applicant's net worth, the better. But if the current ratio, or its trend, is unsatisfactory, a grant of a credit would be interpreted to mean that the bank is being called upon to do more than anticipate the payment of short-term obligations to the borrower. The banker's advance would then represent the assumption by it of a capital position.

A large part of the analysis of bank credit departments thus relates to the study of the current items. Current ratios not only will be investigated for the purpose of revealing trends in the condition of the enterprise itself, but also will be employed to facilitate comparison with other firms in the industry. Since

¹ To the extent that other factors have permitted, the reserve banks have required statements to be on file relating to the condition of the maker of a note offered by a member bank for rediscount.

particular ratios, such as the general one of current assets to current liabilities, may not reveal the most pertinent information, various subsidiary ratios will be studied. These include the ratio of current assets, after deducting inventory, to current liabilities; the ratio of sales to receivables; of purchases to payables; of sales to inventory.¹ A discussion of these ratios belongs principally, however, to works in accounting.

THE TIME SCHEDULE OF ASSETS

What has been said thus far might be derived entirely from the fact that bank assets must be selected as a result of analysis of the borrower's solvency condition. It was not required that we stress the nature of bank liabilities and, in particular, the demand character of bank deposits. This latter fact, however, must be taken into account. Even time deposits are ordinarily withdrawable without notice. Thirty days notice may be invoked against the withdrawal of time deposits, but such action by a bank might be regarded as a signal to the demand depositors to begin to withdraw their accounts. For certain purposes it is a mistake to make any great distinction between time and demand deposits.

In determining the type and amount of particular bank assets it is argued, therefore, that their maturities should be arranged as a result of a specific and detailed study of their probable withdrawability² or at least that they be distributed somewhat

¹ The ratio of current assets to current liabilities, after deducting inventory from the assets, recognizes the fact that difficulty may be encountered in marketing the inventory. Unlike receivables, inventory does not even indicate that sales have yet been effected. The ratio of current assets excluding inventory to current liabilities is the so-called acid test. Obviously this ratio would not be expected to be as large as the general current ratio.

The ratio of sales to receivables bears on the quality of receivables. It is easy enough to effect sales if slow or doubtful notes are taken in payment. The ratio of purchases to payables indicates the extent to which, in relation to the scale of operations, there has been dependence on trade credit. The ratio of sales to inventory is intended to show the rapidity with which goods in stock are finding purchasers.

² In such a study factors that would receive emphasis would be the distribution among large and small depositors, the volume of deposits known to represent temporary accumulations, and the seasonal experience with the different classes of depositors.

equally through time. Under the latter procedure a refusal of a bank at any time to undertake new commitments would operate immediately to improve its reserve position. The repayments of maturing notes would cancel deposits at the bank itself or give it currency or clearance claims against other banks. A bank with loans falling due regularly is always in a position to begin to adjust its condition to altered circumstances.

The tendency of loan assets to diminish relative to other assets, however, has operated to diminish the importance of this principle. Banks with a large security portfolio now emphasize the time schedule of the maturities of their securities as well as of their holdings of commercial paper purchased in outside markets. A sale of this latter type of asset without replacement does not create ill will in the community. When banks refuse an application on the ground that they are already "loaned up" it is ordinarily safe to conclude that the application has undesirable characteristics that the banker does not care to point out. Outer-market securities can ordinarily be sold with impunity to obtain funds to lend to short-term local borrowers.

THE GROWTH OF DEVIATIONS FROM THE AUTOMATIC LIQUIDITY PRINCIPLE

Authorities have long since pointed out, however, that bankers' allegiance to the automatic liquidity principle has been more nominal than real. With the passage of time, deposit banks have come to supply an increasing amount of permanent capital to industry. What factors account for this tendency? A few may be mentioned here.

In the first place, it is difficult in many situations for bankers to distinguish between automatic liquidity and shiftability or marketability qualities. Sometimes capital assets of the type of machinery may be packed up, transported, and sold. Even though the borrower might be unable to operate such machinery profitably and might have a none too liquid position the loan might still be made because of the protection provided by a lien on the machinery.

In the second place, a bank's own capital position may be such as to seem to justify the making of some "term" business loans. A surplus built up by the bank as a result of plowing back earnings and withholding dividends permits some losses to be

absorbed on investments without threatening the safety of deposits. The larger the bank's capital relative to its liabilities the more freedom it should be granted in its investment operations. But there is a tendency here for the more adequately capitalized banks to set standards which weaker competitors often follow despite their inability to absorb losses without unduly depleting capital. It is also contended, too categorically in the writer's opinion, that time deposits signal the fact that the depositor intends to leave his funds in the bank more or less indefinitely and that the larger their volume the greater may be the bank's long-term commitments.

Third, there is the fact that success in deviating from orthodox principles may redound to the good will of the bank. It is not much of a favor for a bank to discount short-term claims of a client against a party of recognized credit standing. Nor is the extension of a line, prospects of whose current liquidation are more or less assured, any clear indication of confidence and friendliness. But applicants who are accommodated in spite of dubious factors are likely to become regular customers when and if they flourish. Occasionally such borrowers, through bank assistance, develop industries that contribute measurably to the locality's and, consequently, to the bank's prosperity. The banker is constantly under pressure to deviate from orthodox rules.

Fourth, banks have frequently been organized for the purpose of assuring abundant credit for particular enterprises. Such banks shape their policies so as to route deposits to the industries that are represented by their stockholders and directors.

Fifth, situations may develop in which the demand for commercial credits is decidedly restricted. In such situations the bank has the problem of comparing capital credit applications in its locality with the security issues of foreign corporations. Advances to local enterprise have the seeming advantage of contributing to employment in the locality where the bank is situated.

Lastly, in periods of incomplete employment, society will generally insist that the central banking system provide stimulation by the vigorous use of its powers of currency and credit expansion. Such expansions may provide banks with power to extend credit to an extent that will be greatly in excess of any

commercial credit demands of high quality. The central banking system, in other words, depends, for the purpose of encouraging economic revival, on producing a favorable effect on the bond market. When banks thus increase their holdings of investment securities they are but following the lead of the central banking authorities.

THE INCREASE OF "SHIFTABILITY" FACILITIES

For the above-stated and other reasons our deposit banking system has become more closely connected with the process of providing permanent capital credit to industry than exponents of the automatic liquidity principle admit to be proper. It has become inevitable that, in this development, devices would multiply, more or less in ratio to the ingenuity of bankers and lawmakers, to increase the shiftability of capital credits. Among these devices are the following:

1. Representing the borrower's obligation by a transferable instrument, as a bond, share of stock, debenture.

2. Utilizing the facilities of the organized exchanges to centralize and perhaps to increase trading in these instruments so that current market value can easily be ascertained.

3. Organizing agencies to operate in the market for these issues, largely, of course, in emergencies. These agencies may owe their existence to bank, as well as to governmental, initiative. In New York State, the Savings Bank Trust Company is an example of cooperative efforts of savings banks to assure the marketability of their assets. The various agencies of the Federal farm loan system, as well as of the Federal Housing Administration, supply instances of governmental initiative in this matter. To the extent that a hookup is provided by direct or indirect means with the country's central banking system the maintenance of orderly conditions in the investment markets becomes an additional responsibility of the system's directing authorities. In times of depression these authorities will be under pressure to try to encourage the use of bank credit to an extent that cannot be matched by an increase in the demand for short-term, automatically liquidating types of credit. But then, in recognition of the dangers that follow from bank acquisition of second-grade securities, the central system and the supervising agencies will be obliged to restrict the type of investment

holdings banks may acquire. It is evident that all banks cannot liquidate by selling to each other. It is also evident that attempts of different banks to liquidate to each other can result only in panicky conditions in the security markets. Consequently, restrictions will be required to prevent banks from acquiring the more volatile issues. The nature of these restrictions will be indicated in the next chapter. It must be pointed out here, however, that, in the absence of these restrictions on investment holdings, the existing volume of self-liquidating loans possessed by our deposit banks might be even smaller than it is today.

REAL ESTATE MORTGAGE LOANS

From the time of the Federal Reserve Act of 1913 to the Banking Act of 1935, national banks' powers to make real estate mortgage loans have been liberalized and broadened. This development represents another deviation from the automatic liquidity principle. Such loans, at least in comparison with short-term commercial advances, are not of a type which can be adjusted promptly to meet deposit withdrawals suffered by a bank or to match the worsened conditions of its borrowers. In this field, also, explanation is required of the departure from classic principles. The following considerations, whether properly or improperly conceived, have had influence with our lawmakers.

1. In many communities in the country a complete set of banking institutions has not been provided. Perhaps the community in question has no savings and loan association or savings bank to mobilize savings for realty improvement. If the savings of this community are left in the "general bank" it is arguable that the bank should be permitted to offset them by the same type of investment that would be permitted one of the specialized institutions.

2. Except in severe adversity, a large, sudden, and unexpected withdrawal of deposits is not to be anticipated. Through analysis and experience, it is moreover contended, the banks should be able to ascertain the probable volatility of deposits and make appropriate arrangements therefor in the remaining portion of their assets. The analysis that is required, so it is argued, is an individual problem for each bank. One of the

reasons for the examination system, however, is to procure the benefit of an outside and impartial check on the perhaps too optimistic opinion of local bank officers.

3. It is asserted that in accepting a time account the depositor has signaled his intention to wait before withdrawal. If the depositor does not thus wait his account earns no interest. The volume of time accounts, as before indicated, has some bearing on the type of permissible investments of a bank.

4. There is the perhaps ill-founded opinion that, in periods of adversity, it is the duty of the banker to provide the financial resources required by industry to give employment. If short-time advances will not suffice longer term loans must be made. "Liquidity," it is contended, must be otherwise secured. At least, liquidity need not be the test applied to all loans to determine their safety. All would admit this point has special application to the bond-buying program of a bank. If the portfolio contains second-grade securities it is proper to inquire why the bank did not prefer loans that would have benefited the locality from which the bank's deposits were derived.

5. It is held by many analysts that the maintenance of the right amount of credit, rather than the acquisition by banks of specified types of assets, is the dominant consideration. In a period of credit contraction it will be difficult for the bulk of commercial loans to be satisfactorily liquidated.¹ Even if they are paid at maturity, applications for new credits may not be numerous or extensive enough to provide a sufficient distribution of purchasing power throughout the country. The point perhaps amounts to this, that we have advanced to a stage in our thinking at which we regard such general factors as full employment at the time in question as more important than a pretty banking position. If avoidance of sound banking procedure brings grief later on, solution will be attempted by other measures, including those which require a large degree of governmental intervention.

¹ In reality automatic liquidity involves shiftability. The payment of commercial loans requires that the borrower find buyers willing to give up current funds. Of course, the question arises whether securities can find markets in times of recession with as little price decline as would be required to move the products of the commercial borrower. Consumption is more stable than investment. But there are many differences between commodities in their price behavior, and it is not proper to make a clear-cut distinction between investments and consumable goods.

Credit is such a fluid and elastic instrument that submission to widespread difficulty is out of fashion for the sake of avoiding later derangements. This is the trend of the times. Like it or not, no reversal is in prospect.

It is urged in increasing measure, therefore, that banks accept loan conditions as they find them and make every effort to adjust their policies thereto. If good short-term commercial loans are not available credit must be put out, in time of business reaction particularly, by noncommercial advances. This opinion has had influence with bank managements.

It has thus come about that, at the present time, national banks may make specified types of real estate loans¹ to an amount equal to their capital and surplus, or to an amount equal to 60 per cent of their time and savings deposits, whichever is the greater. Individual loans, however, cannot exceed 50 per cent of the appraised value of the property to which lien is given except in cases in which arrangements are made to amortize² at least 40 per cent of the principal within 10 years. Pressure is also being brought to bear upon banks by governmental agencies to give greater consideration to term business loans.

MISCELLANEOUS RESTRICTIONS ON BANK LOANS

How impersonally has the business of credit-granting been conducted in this country? Here, as elsewhere in the field of human institutions, favoritism and influence have flourished. Many banks now in existence owe their origin to the schemes of particular business interests to ensure for themselves a cheap and abundant supply of credit. As stated, such interests have often incorporated banks for the purpose of routing depositors' funds toward enterprises that the directors of the bank represent. Needless to say, insiders, officers, and directors have sometimes escaped the severity of credit analysis that good practice required. In the reports of state bank supervisory authorities bad loans to insiders are commonly asserted to have been a frequent cause of failure.

¹ Section 24 of the Federal Reserve Act.

² It is often argued that amortization arrangements create some of the conditions of automatic liquidity. The buyer of a home who regularly discharges a portion of the debt is paying for satisfactions as he receives them.

To avoid such practices law and supervision have gradually added more and more prohibitions. No member bank may make a loan to a bank examiner. With certain exceptions no national bank may lawfully acquire the obligations of any one party to an amount exceeding 10 per cent of the bank's capital and surplus. No member bank may make a loan to any of its executive officers to an amount exceeding \$2500. Executive officers must also report in writing to the chairman of the board of directors the amount of their borrowings from other banks. Under the Banking Act of 1933 loans to security affiliates were severely restricted. For that matter, the maintenance of other than what may be termed "auxiliary" affiliates, such as a safe deposit company, was prohibited after a period of three years. The general purpose of these latter restrictions was to prevent the formation by a bank of an organization that might employ the bank's resources in a manner that would be legally impossible for the bank itself.

Under the Banking Act of 1933 provision was made for the removal of officers or directors of Federal reserve member banks who, after warning by the Comptroller of the Currency or by a Federal reserve agent, have continued "unsafe or unsound" practices.¹ In the case of banks that, after the passage of the Emergency Banking Act of 1933, acquired preferred stock or debenture capital from the Reconstruction Finance Corporation, agreements with that body provided for the easy removal of offending officers or directors. The theory of these provisions is that damage should not be done to depositors by closing banks and, perhaps, compelling their premature liquidation when the fault might be corrected by changing management.

REFERENCES

The student interested in the controversy between proponents of automatic liquidity and of shiftability may profitably consult:

BENJAMIN H. BECKHART, "Monetary Policy and Bank Portfolios," *American Economic Review*, supplement, March, 1940, pp. 17-26.

LAUCHLIN CURRIE, *The Supply and Control of Money in the United States*, Chap. IV.

WILLIAM E. DUNKMAN, *Qualitative Credit Control*.

¹ A frequent type of "unsound practice" is to increase the credit line of a borrower whose previous line has been under examination criticism and protective collateral for which has not been provided.

HOMER JONES, "An Appraisal of the Rules and Procedures of Bank Supervision, 1929-39," *Journal of Political Economy*, April, 1940, pp. 183-198.

HAROLD G. MOULTON, "Commercial Banking and Capital Formation," *Journal of Political Economy*, 1918. Four articles.

CHESTER A. PHILLIPS, *Bank Credit*.

CYRIL B. UPHAM, "Banking Reform through Supervisory Standards," *American Economic Review*, supplement, March, 1940, pp. 234-237.

On credit analysis and the use of ratio tests, see:

J. H. BLISS, *Financial and Operating Ratios in Management*.

J. F. EBERSOLE, *Bank Management—A Case Book*.

EARL B. SCHWULST, *Extension of Bank Credit*.

CHAPTER XVII

OUTER MARKET INVESTMENTS

IMPORTANCE OF BANK SECURITY OPERATIONS

As component items of bank earning assets, local loans and investments were discussed first because the demand for this type of obligation goes far to explain the character of the American banking system. It was observed that the system of independent unit banks certainly would not be required to provide for the pooling of depositors' funds and their investment in the easily rated obligations of business or public corporations. In the absence of a strong local loan demand, bank depositories might just as well be mere branches of centralized institutions. The funds obtained from depositors could be fed into the centralized institutions, but the routing of these funds to industry would be determined in the central offices. From this it follows that the more concentrated industry itself becomes and the more it finances itself by security issues the less need is there for the locally owned and managed institution typical of the American banking system. From the point of view of the future of the American banking structure it is essential to know why banks invest in outside paper and to inquire as to the strength of recent increases in bank investment operations.

WHY BANKS INVEST IN CENTRAL "MONEY" MARKET PAPER

For a variety of reasons the typical interior American bank has always purchased some paper in the country's central credit markets. The first explanation generally offered for this procedure is that, at particular times at least, the bank possesses surplus reserves, to find an outlet for which it must look beyond its own locality. It is true, of course, that many banks serve customers with varying seasonal requirements, and it is quite likely in certain localities that credit demand as a whole will undergo pronounced fluctuations. After admitting this fact, however, there is still much to explain. Why, even in the

busiest periods, has the average interior bank customarily maintained outside investments? To what extent were particular policies and special conditions responsible?

One aspect of the question to which not nearly enough attention has been devoted is the tendency of small interior banks to adopt a uniform loan rate policy. Say that in a certain community a bank believes it would stand a chance of increasing its loans by thirty per cent if the loan rate were 4 instead of 6 per cent. Why does not the bank go after this 4 per cent business on its own initiative, or why does not competition compel the bank to reduce the rate on such loans to the 4 per cent level?

Certain difficulties in this procedure, however, would immediately occur to the practical banker. In the first place, to lower the rate to 4 per cent for new applicants would increase the difficulty of maintaining the 6 per cent rate for existing borrowers. In small communities particularly it is hard to convince Mr. Jones that his credit standing is not as good as that of Mr. Smith. To put the rate down for new customers, even though their credit reputation should be the best, would exert a powerful influence in the direction of lowering rates for all old borrowers. Such a policy might not bring the expected results in the way of increasing the total volume of outstanding loans. At a rate of 4 per cent the bank might be dubious of the wisdom of continuing to lend to Mr. Jones at all. The risk, slight though it is, is perhaps too great to justify carrying the loan at 4 per cent. So the bank would be fortunate indeed to increase its total loans by 30 per cent if it should reduce interest rates by a third. The forces operating to keep local rates at a uniform level and close to the maximum set by law have been powerful.

It might be presumed, however, that in localities serviced by more than one bank a lowering of rates would operate to divert applications from other banks. But for one bank to reduce rates even to favored borrowers would increase the likelihood that competing banks would match the reduction. Banks have to take account of the probable influence of their loan rate policies on those of other banks.

The effect of a uniform high rate policy, then, is to drive some of the worthiest applications in the community to outside loan markets. The cream of local farm mortgages may go to insurance companies. The highest grade business property

mortgages may be taken to large city banking institutions. So also is it likely that the better known commercial concerns will establish credit lines at city banks. So in dispatching funds to the larger places interior banks do not necessarily deprive their own communities of credit accommodation. There are a variety of ways by which funds invested in the outer market may be routed back to the communities in which the deposits originated.

Other points, also, are involved. Every bank likes to hold a portion of its earning assets in a form that can easily be employed to restore a reserve shortage. Deposits in a city institution can be recalled without creating customer ill will. So also can bonds or commercial paper be sold or allowed to run off at maturity. Deposits with outside banks have been needed, moreover, for exchange purposes as well as to establish reliable connections with city correspondents whose services may be required as a provider of credit information, as a collection agent, as a lender in time of emergency.¹

Our banking practices have thus resulted in a large amount of indirect rerouting of funds back to the localities in which they originated. It has been inevitable that in the course of time the volume of this indirect investment would increase. More corporations list their securities on the exchanges and get them rated high enough to attract bank investment. The dispatch of funds to the central credit markets tends to drive down rates on the best risks to levels that make it advantageous for such borrowers to appeal to these markets either directly or indirectly, via such concerns as the commercial paper company. Lawmakers with special concern for such constituents as farmers and small-town dwellers may constantly be expected to bring in bills proposing the establishment of government-sponsored agencies like the Federal Farm Loan Banks, the Home Loan Banks, and Production Credit Corporations. The basic purpose of such agencies is to provide credit at rates approaching those

¹ Even after the Federal Reserve System came into operation interior banks might have preferred city correspondents to the reserve banks for emergency borrowing purposes. One reason for this preference might be the freedom from technical and legal rules governing rediscounts. This, of course, is not to argue that city correspondents should have been selected for their liberal discount policies toward country institutions.

prevailing in the central credit markets on the best types of paper. To the extent that local banks buy government securities, the proceeds of which are loaned by the Reconstruction Finance Corporation to one of these agencies, the indirect investment process is further encouraged.

For these, if for no other, reasons, we should expect the average bank to increase its holdings of paper purchased in outside markets. But, on particular occasions, special policies of the government may accelerate the process. The "easy money" policy of the Roosevelt administration had the effect in so many instances of increasing the spread between loan and central credit market rates that still more interior borrowers were driven to appeal to the central credit markets.

EXTENT OF INCREASE IN BANK INVESTMENTS

Statistically how has the tendency toward the indirect investment of bank funds altered banks' security portfolios? The following figures indicate the sensational changes toward security investments that have been in process of development over a 20-year period:

LOANS AND INVESTMENTS OF ALL BANKS IN THE UNITED STATES*

Date	Loans and investments combined, millions of dollars	Investments, millions of dollars	Percentage of investments to total of loans and investments
June 30, 1920	41,901	11,251	27
June 30, 1925	48,972	15,374	31
June 30, 1930	58,454	17,944	30
June 30, 1935	44,636	24,217	54
June 30, 1939	49,901	28,385	56

* See *Report of the Comptroller of the Currency for 1939*, p. 299.

In this 20-year period investments of all banks increased from a little more than a fourth to over one-half of the total of loans and investments. For particular classes of banks investments have come to comprise an even larger percentage of the total of loans and investments. On Oct. 2, 1939, member banks in the city of Chicago held investments to an amount equal to 72 per cent of their loans and investments.

CHANGING LEGAL CONTROLS OF BANK SECURITY INVESTMENTS

The increasing importance of banks' security portfolios has induced certain changes in legal and regulatory controls as well as in administrative practices. Let us take up the legal changes first.

The National Banking Act of 1864¹ contained no provisions authorizing the purchase of investment securities except for the following: "Such association . . . [may] exercise . . . all such incidental powers as shall be necessary to carry on the business of banking by discounting and negotiating promissory notes, drafts, bills of exchange, and other *evidences of debt*."² It will be noted that this language authorized the discounting but not specifically the purchase of "other evidences of debt." The Comptroller of the Currency shortly issued a ruling permitting national banks to buy for investment "other evidences of debt" which were construed to include bonds. In many states law permitted state-chartered institutions to buy even stocks.³ It was not until 1927 that the law specifically authorized national banks to buy bonds. The Pepper Act of 1927 restricted national banks, in their purchases of "investment securities," "under such further definition of the term 'investment' securities as may by regulation be prescribed by the Comptroller of the Currency."

In regulations issued pursuant to this statute the Comptroller ruled that the term "marketable" meant ready saleability at intrinsic values and that the following factors would be taken into account:

1. Whether the issue was large enough to insure marketability.
2. Whether public distribution had taken place.
3. Whether there was an independent trustee for the issue, either a bank or a trust company.

These were not highly restrictive rulings and left almost entirely to bank managements the question of selecting proper issues. In the meanwhile serious abuses were developing in bank bond operations, abuses which were destined to contribute

¹ The original act became law Feb. 23, 1863.

² Italics are ours.

³ New York State banks and trust companies were permitted to buy specified types of corporate stocks until 1934.

greatly to insolvencies and to the eventual collapse of the banking system in 1933. The Banking Act of 1933 contained numerous prohibitions designed to prevent the repetition of these abuses. Member banks of the Federal Reserve System were prohibited from purchasing securities for customers except on their written orders. The "shelf," in other words, was abolished.¹ Provisions were adopted abolishing, or for the time being regulating, security affiliates as well as restricting the loans the parent bank might make to such affiliates. With exceptions in the case of small issues, securities of a single obligor could not be acquired to an amount exceeding 10 per cent of that outstanding. Nor could the issues of a single obligor exceed 15 per cent of a national bank's capital and 25 per cent of its surplus. These restrictions of the Banking Act of 1933 did not apply to United States obligations, general municipal obligations, or obligations issued under the Federal Farm Loan Act, by the Federal Home Loan Banks, or by the Home Owners Loan Corporation. Under the terms of the later act of 1935 issues of a single obligor could not exceed 10 per cent of a national bank's capital and surplus. Lawfully purchased issues of a single obligor at the time of the passage of the Banking Act of 1933, however, could be retained even though their amount exceeded that permitted for new purchases.

The principal purpose of the 10 per cent limitation was to prevent the assumption by a bank of too much risk in a single commitment. Interesting controversies have arisen over the meaning of the term "single obligor." Generally, the issues of a parent and of a subsidiary corporation are construed as those of a "single obligor." Under certain conditions, and as a consequence of a successful suit brought by the Comptroller of the Currency, members of the board of directors of a national bank may be held personally liable for any losses sustained in the elimination from the bank's portfolio of the portion of the issue illegally purchased.

¹ In many instances the security business was allocated to an affiliate. One way to organize such an affiliate would be to charge the bank's surplus for the capital stock of the affiliate, to issue such stock in the affiliate as a "dividend" to the bank's shareholders, and to provide that the stock in the affiliate could not be transferred separately from the stock in the bank against which it was issued as a dividend.

SUPERVISORY REGULATIONS OF THE QUALITY
OF BANK INVESTMENTS

So far as the statutes go, however, the question of the quality of bonds purchased was left entirely to the discretion of bank managements except that the Comptroller of the Currency was authorized to issue further rulings. The reluctance of the Comptroller to rate securities for the purpose of determining permissible investments can easily be understood. Ratings strict enough to prevent losses might operate to restrain the flow of credit into promising fields of development. Too liberal ratings, on the other hand, would subject the authorities to criticism should bank sustain losses in their purchases of the authorized securities. It is even possible that governmental ratings would be interpreted as setting up additional curbs over the activities of particular enterprises and that violent charges of partiality would result.

In regulations issued Feb. 15, 1936, the Comptroller of the Currency attempted to avoid these difficulties by making the arbiters virtually the private rating agencies. One section of the regulations read:

The purchase of "investment securities" in which the investment characteristics are distinctly or predominantly speculative, or "investment securities" of a lower designated standard than those which are distinctly or predominantly speculative, is prohibited.⁴ The purchase of securities which are in default, either as to principal or interest, is also prohibited.

The footnote (4) referred to the following important explanation: "The terms employed herein may be found in *recognized rating manuals*, and where there is doubt as to the eligibility of a security for purchase, such eligibility must be supported by not less than two rating manuals."¹ According to these descriptions eligible purchases would be confined to the first four ratings (Baa or B1+ and above) of such standard services as Standard Statistics, Moody, and Fitch.

Objections to this ruling were numerous and heated. It was contended that the ruling did not allow sufficiently for the varying needs of different institutions. It was commonly argued that banks with a large capital relative to deposit obligations

¹ Italics are our own.

should be given some leeway in purchasing lower rated but higher yield securities than those with a weak capital ratio. It was further insisted that the type of permissible investments should be determined primarily by the character of the bank's obligations or by the quality of its other assets. There were also protests against the apparent grant of authority to private agencies to exercise so much power in the way of determining the particular industries into which bank credit might be directed. Many economists held that it was unwise to shut off the capital market for bank credit to a large segment of industry during a period in which the capital-using industries were operating so far below normal capacity. Bankers frequently insisted that obligation to confine bond purchases to the higher ratings must operate to produce eventual loss of principal in bank bond accounts. Under the rulings bonds could never be bought except when their ratings were high and their market price (cost) correspondingly high. Sales, on the other hand (under pressure of examiners that the bank get rid of its substandard securities), would often have to take place in periods of depressed market prices.

Another objection to the Comptroller's ruling was particularly significant at the time the regulation was issued. Banks would be largely confined to issues which, if of long maturity, would be vulnerable to changes in market rates of interest. To illustrate, a 15 year \$100 issue redeemable at par and carrying a \$3 annual coupon would sell at \$112.90 to yield 2 per cent. On a 3 per cent yield basis the market price would be \$100, a decline of almost 13 points. To provide another illustration, a change from a 3 per cent to a 4 per cent yield in the case of a 10-year \$100 issue with a \$3 coupon would amount to a market decline of \$8.18.¹

Should banks be protected against market declines resulting not from impairment of the safety and quality of its security holdings, but solely from a rise in interest rates? To encourage emphasis on quality protection seemed necessary, and was provided to some extent by a revision of the Comptroller's regulations issued June 27, 1938, pertaining to bank examination procedure. This revision was agreed to by the Federal Reserve System and the Federal Deposit Insurance Corporation, as well

¹ For a discussion of the Comptroller's rulings see J. H. Wilkinson, *Investment Policies for Commercial Banks*, Chaps. X and XI.

as by the Comptroller of the Currency, and thus applies to members of the Federal system and to all insured banks, as well as to national banks.

In this revision of examination procedure bonds were divided into four classes, as follows:

Group I securities are marketable obligations in which the investment characteristics are not distinctly or predominantly speculative. This group includes general market obligations in the four highest grades and unrated securities of equivalent value.

Group II securities are those in which the investment characteristics are distinctly or predominantly speculative. This group includes general market obligations in grades below the four highest,¹ and unrated securities of equivalent value.

Group III securities were those in default.

Group IV securities were stocks.

With respect to Group I securities it was provided that neither market appreciation or depreciation would be shown in examiners' reports. Neither would be taken into account in figuring the "net sound capital of the bank" (the excess of the assets over deposits and obligations to other creditors).

In the case of Group II securities, values would be determined at the average market price for 18 months just preceding examination, and 50 per cent of the depreciation would be deducted in computing net sound capital.

Group III and Group IV securities would be evaluated at the market (the entire depreciation would be classified as a loss).

This policy of ignoring market prices of high-grade securities as the sole test of their value was not entirely new as it had been in process of development since the bond market panic of 1930 and 1931. In September, 1931, the Comptroller of the Currency had instructed national bank examiners to classify non-default bonds into 13 grades in their reports.² In the case of the four highest grades no charge-offs were to be required on account of market depreciation. In the remaining nine grades write-offs were to be made semiannually to an amount equal to 25 per cent of the depreciation until the securities were carried on the books

¹ Presumably purchases acquired before the regulations of Feb. 15, 1936, or securities whose ratings had declined since the time of purchase.

² See William H. Steiner, *Money and Banking*, pp. 240-243.

at market prices. Defaulted issues were to be written down to market immediately.

Similar measures had been more or less simultaneously adopted by various state banking departments, as for instance in New York and in Pennsylvania. In 1932 the newly created State Banking Board of New York went further in the direction of distinguishing between market and "real" values. Without going into the details of its regulations it may be pointed out that, in cases in which the borrower's general credit was regarded as good, examiners were released from the necessity of testing a loan solely from the point of view of the existing market value of the collateral.¹ Lest these regulations seem astonishingly liberal, however, it should be observed that in examination they would not be followed except with the assent of the superintendent of banks.

This movement in the direction of ignoring market fluctuations in evaluations of the higher grade securities seems to be a logical development of a governmental policy of forcing banks to confine purchases to issues especially vulnerable to increases in market rates of interest. But, as indicated above, these protections in examination procedure will not necessarily insure a bank that holds such issues against loss in the event of a future rise in interest rates. Banks suffering a drain of deposits may be forced to sell the depreciated securities at a loss to restore a deficiency in reserves. In the next chapter some account will be taken of the bank practices appropriate for minimizing such

In another respect (than by the revision of the examination procedure) the Comptroller of the Currency took account of criticisms of his reliance on rating agencies as under the rulings of Feb. 15, 1936. In an address at Sacramento, Calif., on May 22, 1936, the Comptroller, Mr. O'Connor, said;²

Inquiry has been made as to whether this [reference to rating manuals] means that member banks are thus confined to the purchase of securities which have a rating classification in one of the four groups according to rating services. The responsibility for proper investment of bank

¹ The writer was a member of the New York board and recalls its intense discussion of the wisdom of this provision. He believes that time has justified this effort to abate the violence of the existing deflation.

² See *Federal Reserve Bulletin*, June, 1936, pp. 421-423.

funds now, as in the past, rests with the directors of the institution, and there has been and is no intention on the part of this office to delegate this responsibility to the rating services, or in any way to intimate that this responsibility may be considered as having been fully performed by the mere ascertaining that a particular security falls within a particular rating classification.

As the author interprets these remarks, the Comptroller was merely saying that new investment purchases should be within the first four ratings (Aaa to Baa by Moody), but in a few cases might be of lower rating. If the ratings were submarginal, it would be incumbent on the bank management to prove that speculative factors were not predominant. The great majority of banks would be unable to establish, if for no other reason than the lack of a competent staff of bond analysts, that their judgment was superior to that of the rating services.

PREMIUMS AND PROFITS ON SALES

Under present regulations, at what prices may securities be purchased for a bank's bond account? The regulations of June 27, 1938, stipulated that:

Purchase of an investment security at a price exceeding par is prohibited, unless the bank shall:

a) Provide for the regular amortization of the premium paid so that the premium shall be entirely extinguished at or before the maturity of the security and the security (including the premium) shall at no intervening date be carried at an amount in excess of that at which the obligor may legally redeem such security; or

b) Set up a reserve account to amortize the premium, said account to be credited periodically with an amount not less than the amount required for amortization under (a) above.

Group I bonds then may be carried at cost price provided regular allowance is made for the reduction of the premium. This provision was deemed necessary by the authorities to induce banks to prefer (within the permitted rating classifications) bonds of the highest quality. The penalty of buying at high prices is felt in the reduction of the net yield throughout the life of the bond.

What should be done with profits resulting from bond sales? For several reasons control of realized profits seemed necessary to the banking authorities. To permit banks to credit such

profits to the account against which dividends are charged, ordinary surplus or undivided profits, might mean the paying of dividends out of capital instead of out of operating earnings. To employ realized profits on bond sales for dividend disbursements would mean, furthermore, that future bond losses might impair surplus, undivided profits, or even capital. It is only conservative to assume that over a period of time bond losses will be at least equal to bond gains. The profits on bond sales, as the bankers put it, belong to the bond account alone. Profits should first be employed to build up reserves against which possible future losses may be charged. In line with this principle the following ruling appears in the June 27, 1938, revision of examination procedure:

"Until losses have been written off and adequate reserves established, the use of profits from the sale of securities for any purpose other than those, will not be approved."

Should banks buy bonds for the purpose of profiting from eventual appreciation? To select issues for the primary purpose of realizing profits through sales would mean that the bank is endeavoring to "outsmart" the market as a whole. This reduces the management of the bond account to speculation. From the point of view of the whole banking system it would result in a succession of periods in which banks move into cash and out of securities, and vice versa, with resulting disturbances to the investment market. Banks, moreover, that insist the market should be ignored in fixing values should not make it a point to play the market for possible gains. Bonds should be bought with the intention of holding them to maturity for the sake of the yield alone. In line with this principle the above-cited revision of examination procedure contained the following:

"Present practice will be continued under which speculation in securities is criticized and penalized." Examiners make it a point to note whether the bond account indicates what they call "excessive activity."

The above does not mean of course that bonds purchased with the intention to hold to maturity should never be sold. After the date of purchase new conditions may develop which may render a swap in securities desirable, or a bank's reserve may become depleted as a result of a transfer of deposits to other institutions. In restoring its reserve a bank must exercise its

own best judgment regarding the most fitting items in its portfolio to let go. What the examiners mean by excessive bond activity is really "unjustifiable activity."

Comment was made above about the requirement that profits on bond sales be employed to build up reserves against which possible future losses may be charged. Even under this procedure, however, there are ways of utilizing profits on bond sales to bolster current earnings and to permit higher dividend distributions to stockholders. Bonds purchased at a premium may be marked down to par on the bank's books on the date of purchase. The reserves against which the premiums are charged might have been deliberately created for the purpose out of sales of other bonds that had advanced above the market price. In charging down the newly purchased issues to par the current yield will be greater than if periodical allowance had to be made for the amortization of the premium.

The writer is familiar with the condition of several banks in which the above device was employed to improve the quality of the bond account without impairing a none too satisfactory capital position. In these instances high-grade issues were sold to create a profit in excess of the losses realized in sales of inferior issues. With the proceeds new high-grade issues carrying lower coupons were bought at a smaller premium. The net profits on the sales operations were then used to mark down the book price of the new issues. This practice lessened, of course, the current amortization charges and to that extent increased future operating earnings. In the cases cited the banks required these extra earnings in order to maintain a satisfactory earnings' condition.¹

The practices above cited violate the principle of utilizing the bond account for appreciation gains. They were of course criticized by examiners to the extent that they increased the activity of the bond account. In general, however, the divisional examination authorities condoned the practice since the consequence was to improve the quality of the bond account.

The growing size of the average bank's bond account has thus required new and more elaborate statutes and administrative

¹ Banks unable to make satisfactory earnings have been under pressure by government agencies to merge. The effectiveness of this pressure is increased if the bank's condition is open to criticism and if it has been a recipient of R.F.C. capital.

regulations. It is perhaps remarkable, however, that the issuance of such rulings was so long delayed. Lawmakers and supervisory officials did not recognize with great promptness the changing character of bank portfolios. To be successful the modern banker must know investments. Good loan practice alone will not be sufficient to guarantee safety and ensure profitable operation.

CHAPTER XVIII

CAPITAL AND THE BOND ACCOUNT

FAR-REACHING CONSEQUENCES OF BANK INSOLVENCIES

The problem of maintaining bank solvency is one about which we hear much from practical bankers but relatively little from economists. The neglect of this subject by economists, however, is as easy to explain as it is difficult to commend. Economists, of course, have been engrossed in the broader issues of banking, in problems of the banking system as a whole and the effects of bank operations upon the functioning of the existing economy, and they have been trained to employ in their analyses over-all statistics, such as total loans and investments, aggregate deposits, index numbers of prices and of physical trade, and deposit velocities. Relatively few of them have had opportunity to engage in detailed analysis of the special problems of bank management. They have tended, moreover, to regard such work as falling in the narrow field of business administration. In the inner circles of economists little kudos is to be gained from expert understanding of the principles of successful management of the individual bank.

This minimizing of the solvency problems of the individual bank is, however, unfortunate, all the more so because it by no means excludes a study of broader issues. Without a healthy solvency situation the banks of the country cannot serve the economy of the country effectively. Whatever be the nature of the forces contributing basically to deflations and depressions, it cannot be denied that they are seriously aggravated by threatened insolvencies. Banks without adequate capital and reserves may be forced to deny applications for credit they themselves are convinced are sound. In this condition they cannot sustain charge-offs urged by examiners, who are obliged, and rightly so, to observe technical and historically derived principles, and who cannot make great allowance, therefore, for the local reputations of loan applicants. When this threaten-

ing situation exists the flow of credit is obstructed, perhaps to a point at which otherwise uncriticizable applications for credit may have to be rejected.

Many of the practical problems of solvency maintenance will have to be ignored here. Some attention, however, will be paid in this chapter to the capital and bond accounts.

THE CAPITAL RATIO

The necessity of providing sufficient initial capital through stock issues is easy to state. A bank without capital would technically become insolvent with the first decline in the market value of its assets or from an excess of operating expenditures over operating revenues. The capital accounts are buffers between impairment of deposits and shrinkage of assets, either marketwise or through earnings deficiencies.

What principles are followed in determining the proper amount of capital with which a bank should begin business? Most of them have developed through historical trial and error—in other words, as the result of unfortunate experience. In the early days of banking in this country it was not uncommon for share subscriptions to be made by the proffering of subscribers' personal notes. In the event these notes could not be collected capital would be at once impaired. As a result of the consequences of such practices it was provided in the National Bank Act of June 3, 1864, (section 5140 of the Revised Statutes) that at least "fifty per cent of the capital stock of every association shall be paid in before it shall be authorized to commence business" and that the remaining 50 per cent should be paid in equal monthly installments within five months.

But what rights should the shareholder possess? Should he have the right to borrow on the security of this stock? Again benefit was derived from unfortunate early experience. An inability of the borrowing stockholder to repay would have the same effect as if he had withdrawn his shares after subscription. Section 5201 provided accordingly that "No [national banking] association shall make any loans or discount on the security of the shares of its own capital stock." The bank can only acquire its own stock in satisfaction of a debt previously contracted in good faith. Stock thus acquired must be disposed of at a public or private sale within six months.

Until recently, moreover, national bank stockholders were subjected to a risk additional to that of the depreciation of the value of their shares. Section 5205 provided, as also did state law in many jurisdictions, that, in the event of capital impairment, shareholders might be assessed an amount up to the par value of their stock. This was the so-called "double liability provision."

Experience in the administration of this provision, however, was not altogether successful. Suits to collect assessments in the event of bank failures were costly and frequently unproductive. In many instances also they resulted in gross discrimination. Shrewder stockholders, anticipating capital impairment, might succeed in disposing of their stock to innocent purchasers, and at best the justice of collecting from those who maintained their personal solvency when similar collections could not be made from other shareholders was questionable. This provision, moreover, made it difficult in such years as 1932 for banks to improve their condition by raising new capital. For these and other reasons, one of which had to do with the establishment of a new device for protecting bank depositors, the insurance of bank deposits under the Federal Deposit Insurance Corporation, provision was made in the Banking Act of 1935 whereby the double liability provision might be terminated.¹ Previously, in the Banking Act of 1933, newly issued stock of national banks had been removed from the assessment requirements.

How much initial capital is required of national banks? Rather unscientifically the lawmakers made the test the population of the community in which the bank was situated. Prior to the Banking Act of 1933 the minimum paid-in capital was \$25,000. Under present law, applicable to member banks of the Federal Reserve System, the range is from \$50,000 for places of less than 6000 population to \$200,000 in places of more than 50,000 inhabitants.

In 1923² the lawmakers were responsible for a backward step in providing for bank capital. In order to induce more small state-chartered institutions to join the Federal Reserve System

¹ National banks could terminate double liability on their stock on or after July 1, 1937, by publishing a single newspaper notice six months prior to such action.

² Amendments of Mar. 4, 1923.

it was provided that state member banks with as low a capital as \$15,000 might become members. Twenty per cent of the net income of such banks, however, was to be set aside each year until the paid-in capital would equal that required of national banks.

Capital requirements, of course, should not be made to depend solely on the size of the community served. There may be need of relatively large banks in small places, as well as relatively small banks in large cities. Adequate capital also depends on such factors as the withdrawability of deposits and the sensitivity of bank assets to market fluctuations. In the course of years the administrative rule-of-thumb device developed that capital and unimpaired surplus should be equal to at least 10 per cent of total deposits. The national¹ statutes, however, contained no binding provision to this effect; hence its observance depended largely on the advice and extralegal compulsion of the supervisory authorities as well as upon the wisdom and discretion of bank managements. The existence of an adequate capital-to-deposits ratio is of course an attraction to depositors, particularly to those not insured.

In recent years increasing difficulties have confronted many banks in complying with the 1 to 10 ratio. Somewhat reduced bank earnings have made bank stock issues less attractive to investors, and at the same time the government's monetary policy has resulted in a tremendous growth in the outstanding volume of deposits² in which individual banks have shared. It has been difficult for many banks, some of them our largest, to maintain the 1 to 10 ratio. This situation has developed a more critical analysis of the capital ratio question. The opinion has strengthened that the amount of required capital should depend

¹ There are at least 14 states in which statutes require some ratio—usually 1 to 10—of capital to deposits. These states are Arizona, California, Colorado, Indiana, Michigan, Mississippi, Nebraska, Nevada, North Dakota, Rhode Island, South Dakota, Texas, Wisconsin. See Roland I. Robinson, "The Capital-Deposit Ratio in Banking Supervision," *Journal of Political Economy*, February, 1941, pp. 41-57.

² It may well be asked if it is not likely that the periods in which deposits grow most rapidly in relation to the loan demand will not be the most difficult ones in which to secure new share capital. In situations like that recently experienced, bank earnings have been depressed largely as a consequence of low interest rates. These low rates are due in turn to the rapid growth of bank deposits.

more on the type of assets that are held than on the volume of the bank's deposit obligations. Cash, and perhaps short-term government securities, require no protection against shrinkage. Carefully watched and fully secured collateral loans stand in the same category. Unsecured loans and second-rate bonds, on the other hand, are more vulnerable to loss factors.

Out of this analysis it is not improbable that new ratios will either emerge or gain increased emphasis.¹ The ratio of required capital to unstable assets of course will have to be greater than that of capital to deposits if it is to be comparable with the old ratio.

STRENGTHENING CAPITAL STRUCTURES AFTER 1933

It would be expected that, after the collapse of our banking system in 1933, efforts would be made to strengthen the capital position of weakened banks. For the first time in the history of the national banking system provision was made for the issuance of preferred securities in banks' capital structure, preferred stock or capital notes (debentures). The R.F.C. was authorized to purchase such securities, and this it did in large volume. In such refinancing it would usually be required that part of the new capital should be locally provided. The penalty of refusal or failure of the bank to raise the required capital locally might be a similar refusal of the R.F.C. to purchase share capital and the appointment of a receiver (conservator) to wind up the affairs of the bank and distribute its assets.

Banks whose capital had thus to be increased would be anxious to retire their obligations to the R.F.C. as rapidly as possible. For one thing, the R.F.C., as a stockholder, would have a voice in the determination of the management, and in its agreement would retain certain discretionary powers to remove officers and directors. The existence of R.F.C. capital in a bank setup, furthermore, sometimes implied to the public a weakened condition. It was difficult for this stigma to be eliminated by the argument, often advanced in advertising appeals for local capital, that the growth of the bank's deposits, under the influence of public confidence, necessitated more capital.

To get in a position to retire its R.F.C. stock would require the bank either to effect substantial recoveries in previous bond

¹ See Appendix, Chap. XVIII, Note I.

and loan write-offs or to earn sufficiently in the future so that its capital could be rebuilt from earnings. A sufficient increase in the demand for the bank's common stock, moreover, might enable it to put out a common stock issue, the proceeds of which could be employed to retire the preferred, in part or whole. In some instances use was made of a callable, convertible into common, preferred B stock, the proceeds of which were used to retire the preferred A stock owned by the R.F.C. But the success of such ventures depended basically on the bank's ability to earn.

Let us assume that the dividend rate (cumulative) on the new class A stock was 3 or $3\frac{1}{2}$ per cent and the rate on the B stock 5 per cent. Let us assume that the average of these two rates was 4 per cent. Could the typical recapitalized bank earn 4 per cent on the new capital with which it was provided?

If the local loan demand should revive sufficiently after the date of recapitalization—say Jan. 1, 1935—it might be possible to employ R.F.C. capital thus profitably. In many instances, however, the bank would already have advanced as large an amount as possible on sound local loans. It would then be forced to seek a bond market outlet for its additional resources. What kind of issues then promised a 4 per cent return?

In January, 1935, United States government issues averaged a 2.83 per cent yield, high-grade municipals 3.45 per cent, AAA corporates 3.77 per cent, AA corporates 4.21 per cent.¹ Undoubtedly even banks with bond departments of radical opinion would purchase a considerable amount of AAA and AA issues. To bring the average yield on new investments up to a figure approaching 4 per cent, a sizable commitment in securities with A and Baa ratings would be required. What, since that time, has been the market fate of some randomly selected Baa bonds? Many defaults have been recorded in this classification, such as the Erie, Baltimore and Ohio, and Lehigh Valley rail issues.

Many of the recent problems of American banks, the solution of which is by no means completed, may thus be attributed to the recapitalization program following the bank reopenings in the spring of 1933. The writer is one of those who had suggested that, instead of providing banks with capital they could not profitably use, it would have been better to obtain commit-

¹ See *Annual Report of the Board of Governors of the Reserve System for 1936*, p. 183.

ments from the R.F.C. to provide additional capital, but only in case of need.

EFFECTS ON BANK SOLVENCY OF A BOND MARKET DECLINE

The above indicates the amazing speed with which, market-wise, a decline in security prices may impair the sound capital of a bank. To bring this out more clearly, let us assume a bank has the following simplified set up:

Assets	Amount	Liabilities	Amount
Loans and discounts.....	\$2,400,000	Total deposits.....	\$6,400,000
Investments.....	3,600,000	Capital surplus and un-	
Bank Bldg.....	200,000	div. profits.....	800,000
Cash and reserves.....	1,000,000		\$7,200,000
	<u>\$7,200,000</u>		

This bank has a capital ratio of 1 to 8. Assume its earnings are just sufficient to warrant the expectation it will be able to meet operating expenses and loan charge-offs. The average bank, of course, should be able to do a little better than this but not enough better to vitiate conclusions greatly. Suppose that the \$3,600,000 of investments are made up half of high-grade issues which we will assume to be invulnerable to depreciation, and half of lower grade. A 20 per cent depreciation in the market value of the low-grade securities, in terms of market prices, will reduce the bank's capital by \$360,000 and lower its capital ratio from 1 to 8 to 1 to 14.5. Deposit banks should not take such chances with a bond account of fluctuating potentialities.

A great many bankers stress too highly the analogy of a bank to an investment trust. The tendency of the bond account to exceed the loan portfolio seems to warrant this point of view. As many bankers have expressed it, banks obtain their investment funds by accepting deposits whereas investment trusts sell shares or participating certificates. But it is no alibi for the banker to assert, as might perhaps the manager of an investment trust, that he has done better than the market. No matter what the market does, the bank, if it is to maintain its solvency, must still be able to meet its deposits dollar for dollar. The bank as a matter of fact obtains deposits by agreeing to redeem

without dollar loss. For keeping in a position to meet possible withdrawals there is no substitute, so far as the management of the bank is concerned, for the maintenance of a bond list of high quality.

But, it will be asked, are not high-quality issues vulnerable to a change in market interest rates so that these too may depreciate in the market? This question is especially pertinent at the present time. Most skilled observers are extremely doubtful whether the high-grade bond market can stay permanently at present advanced levels. Is it not thus likely that the losses of the future will be even more severe for the institution with a high-quality list than for a bank with a less "rich" portfolio?

In answer it should be pointed out, first, that depreciations resulting from an upward movement of interest rates are not likely to be nearly as severe as those resulting from increasing risk of default in the case of the second-grade issues. A rise of yields by $33\frac{1}{3}$ per cent, from 3 to 4 per cent, would of itself lower the price of a 10-year issue with a 3 per cent coupon from \$100 to \$91.82, or just 8.18 points. Such a decline would be embarrassing, but not nearly as much so as the deterioration commonly experienced when a bond falls from an A to a B rating. There is no substitute for quality in the bond list.

PROTECTION AGAINST DECLINES IN MARKET PRICE OF QUALITY ISSUES

A market decline due solely to a rise in interest rates would nevertheless be disturbing. How can banks mitigate its effects? As indicated above, they are protected against some of the consequences by the rulings of the supervisory authorities in respect to the evaluation of bank assets. But this in itself is not sufficient protection. A withdrawal of deposits depletes reserve and forces the sale of assets in the market at whatever price prevails unless the bank tides over the difficulty by borrowing from the Federal reserve or some other institution. But such permanent borrowing is not in accord with accepted procedure. Except in emergencies, and even then for only limited periods of time, banks generally should employ solely their own resources.

Banks may guard against a market depreciation in quality issues by keeping a large portion of their issues in short maturities. In periods in which interest rates are low and the available

supply of short or medium-term high-grade issues is restricted, however, it may simply be too expensive for the bank to confine its holdings to this type of issue. Under these conditions many banks build their bond lists on the principle of adjusting assets to the type of liabilities outstanding. Deposits are analyzed from the point of view of the time and the amount of their probable withdrawal, and the maturities of the bond list are arranged accordingly. In the event that no decisive opinion is held regarding withdrawals the banker may fall back on the plan of spacing maturities fairly evenly over a period of time. Out of a list of \$10,000,000 confined, let us say, to government securities, one-twentieth, or \$500,000, might be of issues that mature within one year, \$1,000,000 within two years, \$1,500,000 within three years, and so on.

This policy of spacing maturities may be expensive to install unless it has been gradually worked out over a period of time. At a recent date¹ U.S. governments must mature beyond five years if a yield is to be obtained in excess of 0.84 per cent. A one-year Treasury issue yielded at this time exactly nothing. Few banks can meet operating costs on such returns.

Some banks with an insufficient quantity of early dated securities to initiate a spaced maturity program have utilized possible profits on sales of a portion of their longer term issues to write down the newly purchased short terms to a point at which earnings would be reasonable.² Such tactics, of course, require a favorable market for the issues that are sold. The writer is among those who advocate that banks whose deposits are devoid of peculiar characteristics should undergo all reasonable costs to initiate a spaced maturity program. Once it is effectively set up a bank receives the long-term rate on its shortly maturing issues. In 1950 issues maturing in that year will have been purchased in 1940; and the proceeds of that maturity may be reinvested in long-term issues. In this way the long-term rate of interest is realized even on securities currently maturing.

An objection to the spaced maturity program is that it offers no reward for superior investment market analysis. Under the program the bank is unable to jump out of medium or long-term

¹ Mar. 28, 1940.

² After the write-down, regular amortization charges to reduce the premium do not have to be made.

maturities and concentrate on shorts, then perhaps reverse tactics before an advance in the market price of the longer term issues is to be expected. All that the program does is to offer the long-term rate on maturing issues after the plan has had enough time to get into operation. If interest rates stiffen, the bank can adjust itself only slowly to the more profitable conditions. On the other hand, however, a weakening of interest rates makes the bond portfolio more remunerative for a period. Spacing maturities is a means whereby returns will slowly adjust themselves to market rates of interest without forcing the institution to hold profitless securities.

Advocates of the plan do not pretend it will yield the maximum returns that are theoretically possible. If there could be precise knowledge of the future, it would be advisable to change the portfolio frequently from short- to long-dated securities, and vice versa. It is highly questionable tactics, however, for the bank's bond department to try to "outsmart" the market. Such tactics may be proper for an investment trust or an individual not obligated to be constantly in a position to meet deposits withdrawals without loss. It is impossible, moreover, for banks to "outsmart" each other. When each one endeavors to do so the market's unstabilizing tendencies are accentuated. From a general, as well as from an individual, point of view, therefore, much is to be said for the program of spacing maturities evenly.

What should a bank do, however, if it finds itself unable to earn satisfactorily except by succeeding in a speculative investment program? Little can here be offered except to suggest that it should endeavor as rapidly as feasible to get in a liquid position with the aim of giving up its independent existence. Merger with other institutions may be the only practical course. Such mergers may be resisted by inside interests. This is one of the reasons why they frequently come about as the consequence of supervisory authority initiative.

NECESSITY OF ANALYZING ACCOUNTS

The even spacing of maturities may not afford particular institutions adequate protection against large and sudden deposit withdrawals. In such situations the short maturities must be larger than otherwise would be necessary. To determine requirements the bank must analyze its deposits meticu-

lously. Studies must be made of seasonal fluctuations in the balances of important borrowers. Trends in the operations of the basic industries financed by the bank should be taken into account. Experience should be reviewed to determine the "rock bottom" level of deposits, and the bond account should be adjusted so that issues of fluctuating market value will not have to be sold in the market to meet possible withdrawals.

Time deposits supposedly are more stable than demand, partly because they do not represent fluctuating business balances. Insofar as they are made up of a large number of small accounts, experience can be depended on more confidently to determine their variability. If, however, they contain, particularly in the case of small banks, a few very large accounts, the probabilities of substantial withdrawals are increased and the bond account must be adjusted accordingly. In older days a rather rough rule developed that time accounts should provide the resources for mortgage loans and bond investments and that the demand accounts should take care of commercial loans.

Several faults in this conception have recently been manifested. The dwindling tendencies of short-term commercial applications are one, and the difficulties of meeting interest requirements on time accounts are another explanation of changed attitudes. It is hard to conceive of returns on government securities justifying the payment to time depositors of as high rates as $1\frac{1}{2}$ to 2 per cent. The time account department must ordinarily get some help from the higher yield loans and mortgages. Then, again, time accounts, which represent savings and indirect investment, might prove highly fleeting in the event of another booming stock market like that preceding 1929. The differentiation between time and demand accounts does not contribute nearly as much to the study of proper bond accounts as the analysis of component items of each.

In many ways bond accounts have now to accept a large measure of the responsibility previously borne by loans and discounts. In the average interior bank sound loan applications are now so much desired on account of their yield alone that their maturities have not and cannot well be distributed so that the bank can at any time make progress toward contraction. In such situations provision must be made in the bond account for deposit withdrawals. It is to be kept in mind further

that deposits do not tend to follow bond purchases, as they do loans.

The increasing burden thrown on the whole bond account by recent developments has also served to blur the point of separation of secondary reserves from that part of the bond list which is invested for profit. Spacing maturities over a long period of time makes the liquidity distinction between the early and medium maturing issues no greater than that between the medium- and long-term. Under the even maturity program the time will eventually come when the present medium-term will be the short issues, and present shorts will have been converted into longs.

It is hoped that the above discussion will throw a little light on the puzzling problem of how banks should proceed to loose themselves of the consequences of market fluctuations in that portion of their assets which is growing most rapidly in size. Economists seldom make good bankers because it is hard for them to avoid basing decisions on their analytical predilections. Banks must remain open, however, and deposits must be encashable 100 cents on the dollar, even though expectations are unrealized.

CHAPTER XIX

EARNINGS AND THE MAINTENANCE OF SOLVENCY

REAL ESTATE LOAN PROVISIONS IN THE ORIGINAL NATIONAL BANKING ACT

In recent years, declining demands for short-term credit and low yields on high-grade investment securities have operated powerfully to reduce the profitability of commercial bank operation. The offsetting influences of increasing deposits and of a reduced number of banks in existence have been insufficient in and of themselves to maintain earnings at profitable levels. Other measures have been necessary, such as restriction of banking hours, increasing service charges levied on the public, and widening the variety of loans. The latter may be discussed briefly first.

In the original national bank acts, banks were not given power to make loans on the security of real estate. The lawmakers had been impressed by the slowness with which real estate loans were liquidated in previous depressions and did not regard them as a sound backing for bank deposits. In the course of time, however, the conviction deepened that the early legislation was unduly restrictive. In many localities the principal asset of prospective borrowers was farm property, and inability of the banks to obtain liens on such property was embarrassing. After negotiating a loan with the bank the borrower might give a mortgage to some other creditor and thus leave the bank with a deferred claim to his principal security. It became all the more difficult under these conditions for national banks to meet the competition of state-chartered institutions operating under more liberal statutes. From the point of view of the farmer moreover, the restrictive provisions of banking law were held largely responsible in many communities for increasing the farmer's credit costs unwarrantedly, as, for instance, by forcing him to depend on store credit.

CHANGES IN THE STATUTE SINCE 1913

Not until the passage of the Federal Reserve Act of 1913 were loans secured by real estate permitted national banks. In that act it was provided (Section 24) that

Any national banking association not situated in a central reserve city [then New York, Chicago, and St. Louis] may make loans secured by improved and unencumbered farm land, situated within its Federal reserve district, but no such loan shall be made for a longer time than five years, nor for an amount exceeding fifty per cent of the actual value of the property offered as security. Any such bank may make such loans in an aggregate sum equal to twenty five per centum of its capital and surplus, or to one-third of its time deposits. . . .

Several features of this legislation merit attention. In the first place the maturity of the loan was restricted to five years. Secondly, the investment as distinguished from the commercial character of these loans was recognized by the provisions restricting the total of such loans to a given percentage of the bank's capital and surplus or of its time deposits. The newly made distinction between time and demand deposits helped to overcome opposition to these provisions on the part of some of the more conservative members of Congress. It was not difficult to uphold the contention that the time deposit liabilities could properly be offset by at least medium-term investments. But doubts as to the soundness of the legislation were evidenced by the following additional provision of Section 24:

"The Federal Reserve Board shall have power from time to time to add to the list of cities in which national banks shall not be permitted to make loans secured upon real estate. . . ."

In this form, legislative provision for real estate loans by national banks stood on the statute books until the passage of the Pepper Act in 1927. At this time many representatives in Congress of the agricultural states were impressed by the argument that one explanation of the prevailing low prices of farm property was to be found in the seepage of funds from interior communities via the banks to security market uses. Agricultural leaders commonly maintained that depositors' funds should be preserved for local and farm investment.¹ In the resulting legislation, however, the principal change effected in section 24

¹ Senator Brookhart of Iowa was a leading exponent of this opinion.

was to permit banks to invest up to 50 per cent, instead of $33\frac{1}{3}$ per cent, of their savings deposits in farm secured paper.

Section 24 was further liberalized by the terms of the Banking Act of 1935. Undoubtedly Congress was greatly influenced by the threatened earnings position of national banks. A variety of agricultural and home financing agencies had been sponsored by the Federal government, and within the various states trust companies, mutual savings banks, and savings and loan associations were eager bidders for sound real estate loans. Then, again, the experience of conservatively managed savings and loan associations during the preceding crisis had lessened some of the apprehensions with respect to a certain type of real estate loan. Loans of not-far-distant maturity, made on homes, with reasonable arrangements required for regular amortization, had proved to be a far different asset than the speculative land loans of state banks before the Civil War.

In the Banking Act of 1935 the territorial limitations of former law (within 100 miles or within the same Federal reserve district) were abolished. The aggregate amount of real estate loans could equal the national bank's capital and surplus or amount to 60 per cent of its time and savings deposits, whichever was the greater. Such loans could have a maturity in excess of five years (up to a 10-year term) provided the principal did not exceed 60 per cent of the property and provided installment payments were contracted which would be sufficient to amortize 40 per cent or more of the principal within 10 years. In the absence of this amortization the loan could not exceed 50 per cent of the appraised value of the property to which lien was given.

Member bank real estate loans increased almost 30 per cent between June 29, 1935, and June 30, 1939. On the earlier date real estate loans were 19 per cent of total member bank loans; at the latter date 21 per cent. If the long-awaited home building boom should once get under way bank earnings on this account might be expected to increase appreciably.

CHANGING ATTITUDE TOWARD CONSUMER LOANS

Another marked indication of the importance of increasing earnings to "commercial" banks is signified by their entrance into the small loan field. Factors delaying their invasion of this field were, first, the belated recognition of the justification of

loans for consumptive purposes; second, the prevailing opinion that operations in this field were not respectable; third, the delay of legislative bodies in modifying usury laws so that this business might be carried on at a price commensurate with its cost; and, last, the intensity of the commercial loan demand until recent decades.

The unorthodoxy of loans to consumers was born of the opinion that banks should not assist borrowers to go into debt unless the proceeds were employed to increase the borrower's powers to produce. The commercial loan theory, as previously indicated, stressed highly the self-liquidating character of loans. This doctrine, however, has been passing more and more into discard, and, even if fully accepted, did not prove that consumers might not be assisted by proper credits to improve the quality of their purchases and their ability to produce. A credit that enables a borrower to buy a washing machine provides, to be sure, a durable good. But this durable good yields a series of services for which, under the installment payment plan, the purchaser pays as he goes. The pay-as-you-go element may therefore be just as much in evidence as if the borrower had been denied the credit and instead had regularly purchased more perishable goods such as peanuts or beer. The justification here offered for consumer credits is that borrowers may be assisted to direct purchases into goods that yield greater satisfaction than those which would be acquired in the absence of assistance.

Other points also are involved in the justification of consumer credits. Such credits may (or may not) improve the capacity of the borrower to produce. Practically, however, their extension cannot be avoided. If not made by recognized lenders they will be provided by unregulated agencies, the typical loan shark perhaps. Or credits may be extended by sellers under installment payments, the terms of which are ordinarily much more expensive. It is hard, moreover, to find much difference between a loan by a bank to a customer to purchase an automobile and a loan made to a finance company which takes the customer's personal obligation. Finally, there is some evidence that this country is passing from a state in which full employment can be provided by confining credits to business loans. Production of durable consumers' goods, in the opinion of many economists,

is destined to occupy an increasing portion of our total economic activity, and this production must somehow be financed.

The matter of the alleged lack of respectability of consumer credit derives from shady practices of many unrecognized lenders. Slowly the opinion has prevailed that the remedy for this situation lies in the acceptance and regulation of that which cannot and probably should not be outlawed. In this development a leading role was played by the Russell Sage Foundation. Incorporated in 1907, it undertook extensive studies of the small-loan problem. In 1916 its representatives cooperated with other agencies, including the newly organized American Industrial-Licensed Lenders Association, in producing a draft of a Uniform Small Loan Law. Although since modified, this draft still serves as a model for state legislation. The basic principles of the draft were, first, to permit higher than the legal rates for this type of loan; second, to require state licensing of the agencies that participate in the business; third, to submit these agencies to strict supervision; fourth, to limit loans to \$300.

Different types of agencies have sprung up to make such loans. Personal finance companies have developed as chain organizations. Morris Plan industrial banks have come into existence to make loans from \$100 to \$5000; and cooperative associations, known as credit unions, may now be authorized under Federal, as well as under state laws. In New York, as in other states, the basic principle of credit unions is that they comprise homogeneous groups of possible necessitous borrowers. Contributions of members are to be regarded as revolving funds. Advances to particular borrowers come to be available on repayment to other members. The personal knowledge of members of each others' affairs is assumed to be some protection against misuse of the funds.

PERSONAL LOAN DEPARTMENTS OF NATIONAL BANKS

From the very beginning national banks have been permitted to make loans on personal security. But the large development of this business has been restricted by the maximum rate that could be exacted, a rate that, particularly for small loans, has generally made the business unprofitable. As amended by the Banking Act of 1933¹ national banks have been permitted to

¹ Section 5197 of the Revised Statutes.

charge a rate 1 per cent in excess of the Federal reserve discount rate on 90-day commercial paper, or the "rate allowed by the laws of State" where the bank is situated, whichever is the greater. When no rate is fixed by the state, the bank may receive a rate "not exceeding 7 per centum, or 1 per centum in excess of the discount rate on ninety-day commercial paper in effect at the Federal reserve bank."

In New York State the legal maximum is 6 per cent. How under that statute can personal loans be profitable? Three points deserve mention. In the first place, the bank may confine its loans to the sounder applications. Second, the statute quoted did not prohibit either the deduction of interest in advance or the requirement that the principal be regularly reduced. Third, state law permits a rate higher than 6 per cent for this type of loans.

The taking of interest in advance as well as requiring the principal of the loan to be repaid in installments makes the actual rate far higher than the nominal. Suppose the borrower gives his note at the beginning of a year for \$100 and receives therefor \$94. The \$100 under the agreement may be repayable in twelve installments, or \$8.33 per month. Under these conditions the actual return realized is at the rate of 11.58 per cent per annum. Not only is the interest taken out in advance, but payments are made throughout the year so that on the average the bank is "out" approximately only half the advance.

Does this constitute evasion of the usury statute? On this point the higher courts have not ruled in all jurisdictions definitely and with finality. But there is another defense for national banks in some states. In its statute of 1936 governing personal loan departments of commercial banks, the New York legislature permits banks to "charge interest at a rate not to exceed twelve per centum per annum, computed on unpaid principal balances of loans repayable in regular periodic installments over a period not to exceed fifteen months." A nominal rate of 6 per cent, actually resulting in a 11.58 per cent real rate, would be within this "twelve per centum" charge.

The legal basis for personal loan departments of national banks has come to be regarded as sufficiently clear in most jurisdictions for rates to be charged that actually are considerably in excess of the nominal maxima. If the legal basis for this

procedure is accepted, what should be the attitude of national banks toward such loans? On this question authorities are not in complete agreement. In a speech at White Sulphur Springs on Mar. 29, 1940, Mr. M. S. Scymczak, member of the board of Governors of the Federal Reserve System,¹ argued against uncritical use of bank lending facilities in the field of consumer credits. He warned the bankers that, in periods of depression, such loans might prove to be a boomerang, and that over a great part of the field personal finance companies operating under small loan laws could serve the public more efficiently. Mr. Scymczak further declared that \$200 was the smallest size of loan that banks could handle profitably.

Differences of opinion on this matter are traceable to a number of factors, in themselves disputable. From the point of view of banks as a whole it should be kept in mind that the direct acceptance of small applications lessens the banks' ability to make loans directly to personal loan companies. But individual banks may be so situated as to be able to avoid basing their loan policies on such considerations. Allocation of overhead costs to particular loans is furthermore of dubious accuracy in the case of small banks. Many banks have entered the present era with some departments overstaffed. Bond buying has increased, and loan granting has diminished. Aside possibly from the expense of maintaining well-equipped analytical departments, which expense many banks are minimizing by confining purchases largely to government securities, it requires far less expense to manage a bond than a loan account. Little more effort, moreover, is involved in purchasing a \$500,000 than a \$50,000 bond issue. Local loans, however, required analysis of each individual application. The remedy for this overstaffed condition cannot easily be found in reducing the size of the officer staff. The short-term loan demand may increase sharply in the future, and banks should be equipped to take care of it. In the meanwhile personal loans provide incompletely occupied officials with work to do.

INCREASED SERVICE CHARGES

The recent inroads on earnings have resulted also in a considerable expansion in bank service charges. The writer has

¹ See *New York Herald Tribune*, Mar. 30, 1940, p. 23.

in mind one small bank which increased its revenue on this account about 10 per cent of its former gross between 1933 and 1938 without arousing any large antipathy on the part of its depositors. In the old days of high loan rates and of heavy short-term credit demands the typical interior bank was so anxious to obtain working funds that it offered its depositors every inducement to maintain balances. Interest payments were frequently made on demand deposits (this practice is prohibited under the Banking Act of 1933). The borrower was generally regarded as practically the sole support of the bank. Nowadays, with greatly reduced bond yields and lessened local loan demand, deposits are not so much wanted. Almost every bank analyzes accounts to determine which are profitable and which are not, and the results of the analysis are generally reflected in the amount of service charges. A highly active small account simply means that banks are incurring the expense of the personal bookkeeping of their customers. Whether there are now adequate safeguards against the overcharge for services rendered is a matter into which we cannot here enter.

In 1938 service charges for all member banks amounted to 5.2 per cent of total earnings. Statistical information is lacking regarding the contribution to revenue of service charges in earlier periods. Fragmentary evidence, however, indicates the gain to be considerable.

Banks, therefore, have recently faced serious difficulties of maintaining earnings. A further cause of their difficulties has been the growing competition of government sponsored agencies, particularly those set up to aid farm operations and home building. The serious character of this competition is reflected by the fact that on Dec. 31, 1939, loans and preferred stock of the H.O.L.C. amounted to 2.25 billion dollars, of government farm mortgage agencies 2.59 billion, and of the R.F.C. 1.63 billion. Both the R.F.C. and the Federal reserve banks are now authorized to make direct loans to businessmen. Except for the reserve banks, these agencies have to be financed either directly or via the Treasury or R.F.C. In buying the obligations of these corporations the banks get the opportunity to subscribe to government or agency issues. But the interest return on these issues is abnormally low.

In reference to these matters, Mr. Woodlief Thomas of the Federal Reserve Board's division of analysis and statistics recently stated:¹

Although the decline in gross earnings of banks has been partly offset by reduced expenses and by lowering or discontinuing interest paid to depositors, the margin between operating receipts and expenditures has been reduced to about $1\frac{1}{4}$ per cent of total loans and investments in recent years from over $1\frac{3}{4}$ per cent in 1920's.

The comments of this chapter may seem to have been offered in deference to considerations of fair treatment for bank stockholders. Such, however, is not the purpose. The principal question is the extent to which enforced interest rate reductions may be continued as a business stimulant in periods of depression. In the opinion of many economists, particularly those of Keynesian persuasion,² the problem of full utilization of our economic resources is that of getting the complex of interest rates low enough to encourage a larger assumption of investment operations. What must be pointed out here is that rate reductions may not exert much influence on the volume of credit requested by seasoned industries and that reduced bank earnings make banks more cautious in lending to applicants whose credit standing is less secure. Unless banks are permitted to earn enough to build up adequate reserves they simply cannot afford to accept many risks. The history of this country affords numberless instances where successful industries have developed because some banker, one whose earnings from other sources were usually not negligible, was willing to take a chance. In the author's opinion it is far more important that banks be in a position to assume reasonable risks in a minor portion of their loans than that sound borrowers obtain accommodation at the lowest possible rates. There is a point at which rate reductions (on the soundest loans) no longer contribute to effective credit expansion.

When such a situation as that now prevailing has developed, however, a variety of schemes will inevitably be forthcoming to increase the flow of credit. Various governmental agencies will be provided with additional powers to direct credit into

¹ *Federal Reserve Bulletin*, March, 1940, p. 197.

² Chap. XXXVIII.

particular uses. Or government agencies will be set up to guarantee banks against at least a portion of the losses that might result from incurring approved loans.¹ The further development of such government credit agencies is subject to serious dangers. Political considerations may enter into policies. Credit soundness may be subordinated to vote-getting. In any event it is doubtful if the government has the imagination necessary to determine when departures from basic principles can legitimately be made.

TIME DEPOSIT RATES

It has been mentioned that, in the Banking Act of 1933 (section 11) banks were prohibited against paying interest on demand deposits. The same section also gave power to the Federal Reserve Board to fix rates on member bank time and savings accounts. At the present time the Federal reserve maximum is $2\frac{1}{2}$ per cent. In cases in which a lower rate is fixed by state authorities this lower rate (as in New York, whose banking board has established a 2 per cent maximum) will prevail as the maximum.

This legislation was dictated by the opinion that competition for deposits by offering high rates was one of the basic causes of bad bank investments prior to 1933. Institutions either unable to meet competition with better equipped depositories, or whose managements were willing to acquire riskier loans and investments, employed high rates to hold or to gain deposits. It was realized by Congress that such competition must be regulated if future drains upon the resources of the Federal Deposit Insurance Corporation were to be minimized.

Particularly in the case of mutual institutions (like the savings banks of the state of New York) a difficult problem is being created for future determination. Suppose some banks are able to build up surpluses to large amounts because, under the prevailing control of dividends to depositors, earnings are large. Such excess earnings cannot be distributed to existing depositors. When such a condition exists shall the maximum rates be lifted?

¹ This is the theory behind loans insured by the Federal Housing Administration, Title II. The borrower makes his application to a financial institution. If it is guaranteed by the F.H.A. the bank is released from risk to an amount equal to 20 per cent of all such loans made by the bank.

To follow such a course might necessitate higher payments by other institutions than their earnings permit. What right, moreover, have regulatory bodies to take from existing depositors and give to future depositors?

Thus far the simple necessity of giving the majority of banking institutions an opportunity to strengthen their condition has resulted in postponement of decision on this troublesome issue. But there is no denying that future authorities will be faced with a most perplexing problem of justice. The main point of present emphasis, however, in the control of time deposit rates is the fact that lower dividend and interest payments have constituted one of the means by which banks have adjusted themselves to a condition of reduced earnings.

REFERENCES

On the problems of consumer credit, the reader is referred to:

- CONSUMER CREDIT INSTITUTE OF AMERICA. *Consumer Credit and its Uses.*
 MARGARET GROBBEN, *Industrial Banking.*
 HENRIETTA C. JENNINGS, *The Consumer in Commercial Banking.*
 M. R. NEIFELD, *Personal Finance Comes of Age.*
 ERNESTINE WILDER (compiler under the direction of the Consumer Credit Institute of America), *Consumer Credit Bibliography.*

CHAPTER XX

DEPOSIT RESERVES PRIOR TO 1913

BELATED RECOGNITION OF THE IMPORTANCE OF RESERVE PROVISIONS

It has been explained that, under conditions of a sufficiently intense demand by business for credit, individual banks tend to increase their loans or investments by the amount of their excess reserves and to diminish them as their reserve holdings become deficient. From this it follows that the ability of a credit authority such as the central bank to control the volume of bank credit depends largely on its power to regulate bank reserves. Since this is clear it might be expected that, at a very early date in our banking history, this country would have developed the practice of either altering reserve requirements frequently or endowing a central authority with power to change the size of bank reserves.

As events were to unfold themselves, however, it was not until 1913 that provision was made for the establishment of an effective agency to operate upon the size of bank reserves, and not until 20 years later that law provided for the upward and downward adjustment of reserve requirements by administrative discretion.¹ There were several reasons for the belated use of reserve adjustments in the interest of credit control. Of principal importance, however, is the fact that our early lawmakers were vague in their concept of the function of bank reserves. To show how their concepts have changed during the course of our banking history is the main purpose of this chapter.

EARLY CONCEPTION OF CAPITAL AS A NOTE RESERVE

What did early American lawmakers conceive to be the principal banking operation that should be regulated? The answer is, of course, bank note issues. As a matter of fact, the issue power was generally regarded as the prime reason for

¹ It is true that, in the act of 1913, the reserve board was empowered to suspend reserve requirements for periods not exceeding 30 days.

organizing our early banks. After the Revolution and the confederation the specie supply was scarce and of heterogeneous content. If banks could be created, specie would be paid in by the stock subscribers, and on the basis of this specie a somewhat larger volume of bank notes could be issued. As the public gained confidence in the soundness (easy and certain redeemability) of these notes, they might be preferred generally to coin, and depositors also would be expected to bring in their specie for safekeeping. As long as the note privilege should be conservatively exercised and the note volume restricted there should be no difficulty in securing circulability for bank notes, thus, as Hamilton put it when arguing for a National Bank, enabling the country to obtain a "manifold" use of the available volume of coin. As Hamilton further stated in his *Report*:¹

It is a well established fact, that banks in good credit can circulate a far greater sum than the actual quantum of their capital in gold and silver. The extent of the possible excess seems to be indeterminate; though it has been conjecturally stated at the proportions of two and three to one.

In the opinion of Pelatiah Webster,² who wrote in 1786:

It is also found by experience, that any sum of money in the stock of a bank well regulated and managed is sufficient to support the credit of *double or treble its amount in bank bills*, whilst each of those bills is indisputably as good as *cash*, because *the possessor may at any time exchange them at the bank for solid hard money*.³

If banks' prime function was that of issuing notes, the problem that was posed was how these issue powers should be restricted. Generally among the states the dominant idea in our early history was to relate the maximum note issue to the bank's capital. Thus section IX, Act of Incorporation of the Bank of New York, passed Mar. 21, 1791, stated:⁴

" . . . the total amount of the debts which the said corporation shall at any time owe . . . over and above the monies then actually deposited in the banks, shall not exceed three times the

¹ Alexander Hamilton, *Report on a National Bank*, p. 62.

² *An Essay on Credit*, p. 436.

³ Italics are our own.

⁴ W. F. Ryan, *The Problem of Member Bank Legal Reserves*, doctoral dissertation deposited in the Cornell University Library, 1937, pp. 18-19.

sum of the capital stock subscribed and actually paid into the bank." As Dr. Ryan has pointed out,¹ the early legislatures generally conceived capital, when actually paid in, to be the equivalent of specie. In restricting the note volume to a multiple of the capital stock the lawmakers were really accepting the concept of a specie reserve for note obligations.

WHY DEPOSITS NOT REGARDED AS REQUIRING RESERVE

But why did not the early statutes regard deposits, just as much as notes, as obligations of the bank requiring capital? Several explanations have been advanced in answer to this question. First, it has been asserted that, in this period, deposit obligations were relatively unimportant. Ryan, however, has shown that this common statement exaggerates the quantitative superiority of bank notes. He points out that for all banks in the United States from 1820 to 1860² there was not a single year in which deposits were less than 60 per cent of the note issue, and there were even 12 years in which deposits were the larger. Although deposits were probably smaller, relative to notes, in the years preceding 1820, there is no evidence that they were so small as to be unimportant. Other explanations must be sought.

A second such explanation is that the legislative bodies were aware of the greater relative volume of deposits in city than in country banks, but were convinced that city banks required less statutory regulation. Generally city institutions were more soundly administered. Their mere accessibility made it more difficult for them to delay payment of their obligations; in resisting demands for redemption they were less strongly supported by public sentiment than country banks; and banks regularly called upon to provide specie for export were required to keep in position to provide it. After careful analysis, however, Dr. Ryan has convinced himself that this opinion was not controlling among legislative bodies.³ He concludes that the real explanation of the emphasis upon note issues lies in the improper understanding of the extent to which deposits were derived from loans. The general conception was that deposits were the equivalent of specie. To employ modern terminology, deposits

¹ Ryan, pp. 21-23.

² Ryan, p. 78.

³ Ryan, p. 80.

were thought to be of the "primary," rather than of the "derivative" type. The larger its deposits, the more adequately provided with specie a bank would be assumed to be.

CHANGE IN EMPHASIS FROM CAPITAL TO SPECIE

With the growth of experience it was found, however, that in regulating notes it was unsatisfactory to depend upon capital restrictions. The practice widened of permitting capital subscriptions to be paid in promissory notes, and many banks were unable to attract large quantities of specie in deposit operations. In the opinion of far too many banks, furthermore, deposits were unattractive because holders of the bank obligations generally resided in the community where the bank was situated and would have ready access to the bank's specie. Notes, on the other hand, would pass through the channels of trade and would reach communities from which it would be expensive to send them in for redemption. In periods of distrust, however, redemption demands might develop to significant proportions. It thus came gradually to be believed that the note circulation should be based directly on the bank's holdings of specie.

The first state to enact a definite fractional specie reserve for notes was Virginia which, in 1837, provided that the amount of specie in the bank's vault must equal one-fifth of its circulation. In 1838 New York required a $12\frac{1}{2}$ per cent specie reserve for notes; in the same year Georgia required a 25 per cent specie reserve; and in 1839 Ohio required a $33\frac{1}{3}$ per cent specie reserve. All in all the specie reserve principle found application in 13 states between 1837 and 1863. Of these states only Louisiana, Connecticut, Massachusetts, and Iowa applied the fractional reserve principle to deposits as well as to notes.¹

OTHER REGULATORY DEVICES

In the period preceding the Civil War, other devices than specie reserve requirements were thus relied upon to regulate bank obligations, with emphasis on notes. Many of these devices classify under the general heading of schemes to compel the prompt redemption of note obligations. The general policy of the first United States Bank (1791 to 1811) and of the second

¹ Ryan, pp. 330-339.

United States Bank (1816 to 1836) in refusing to pay into circulation state bank issues and instead to send them in for redemption was of this nature. Of similar import was the requirement of members of the Suffolk Bank system (1818 in Boston) that country bank notes would not be received at par by Boston banks unless they should maintain a redemption fund at the Suffolk Bank.

But devices to compel prompt redemption are of chief importance in keeping issues of different banks in proper proportion. They may not operate to restrict the total obligations of the whole banking system within proper limits. If all banks expand note issues more or less similarly, the average institution may not be restrained against doing its share to produce a larger total circulation than is desirable. The theoretical basis for restricting the note issue volume was thus imperfectly understood. But one fact was constantly pressing itself on the minds of lawmakers and city banks. Notes gave claim to specie which might be required for export abroad. The whole note issue, therefore, should not be permitted to expand beyond specie redemption limits.

Here and there also in various states efforts were made to hold in check the demand for redemption currency by restricting note issues of large denominations. It was believed that the smaller issues would be more likely to remain in circulation. There is some truth, of course, in this contention. But notes of small denomination might be concentrated by brokers in large holdings on occasion when a premium on specie developed. It is obvious that this device alone could not be depended upon to produce a sound (redeemable in specie) note issue currency.

HOW NATIONAL BANK NOTES COME TO ESCAPE RESERVE REQUIREMENTS

With the Civil War came the national banking system. This system was finally set up in such a way that notes escaped the fractional reserve requirement so that, by the time of the Federal Reserve Act, 50 years later, no reserve requirement (except a 5 per cent redemption fund) applied to bank note issues. To what shall this change be attributed? Was it merely the fact that the derivative character of bank deposits came to be clearly understood so that the distinction between notes and deposits

as bank debts broke down? We shall show that other facts have to be brought into the picture.

Mr. Salmon P. Chase, Secretary of the Treasury, in December, 1861, recommended to Congress the chartering of banks under Federal authority. Such banks would be empowered to issue notes on the security of United States stocks and an adequate provision of specie. The purchase of United States stocks by these banks would provide the Treasury with funds and would restrict the necessity of utilizing other and more radical financial devices. The conception of a bond-secured currency, Chase argued, was not a radical innovation. It had been tried out successfully in New York. Neither did Chase believe the enactment of this legislation would disturb the banking system. It was anticipated that existing institutions would become the new banks by giving up their state charters and obtaining Federal incorporation.

Chase's report to Congress was referred to the House Ways and Means Committee. In a short time, by Jan. 9, 1862, this committee made public the terms of a proposed bill under which new banking associations might be formed by any group of persons, not less than five in number, and with a minimum capital of \$50,000. These associations would be authorized to deposit bonds with the Comptroller of the Currency and receive national bank notes to the amount of the market or par value of the bonds, whichever was the lower. Each association would be required to have on hand in lawful "money" an amount equal to 25 per cent of its note circulation. Demand deposits in a bank in New York, Boston, or Philadelphia would be considered as lawful money for reserve computation purposes up to an amount not in excess of three-fifths of the required reserve.

Three facts related to these reserve provisions deserve comment. In the first place, they did not apply to deposits, but only to notes. In the second place, they widened the area over which deposits in other banks could be considered as reserves. As a matter of fact, it had not been until 1845¹ that an American state had sanctioned redeposited reserves. This state was Ohio. The legislature was moved to take this step because local demands for note redemption more often called for eastern exchange than for specie. Then, again, deposits in the financial

¹ Ryan, p. 129.

centers earned interest. Third, the reserve requirements of the bill were extremely reasonable (from the point of view of the banks). Amasa Walker, Representative of Massachusetts,¹ believed that they were too low. He saw no prospect, however, of getting Congress to increase them.

The bill in this form did not become law. Agitation in favor of a bill embodying Chase's proposals nevertheless continued. On July 11, 1862, Representative Hooper introduced another bill in which the 25 per cent requirement was retained, but with the proviso that it would apply to deposits as well as to notes. But clearinghouse certificates, as well as demand deposits maintained with any bank in Boston, New York, Philadelphia, Baltimore, Cincinnati, or New Orleans could be counted as lawful money to the extent of three-fifths of the 25 per cent reserve. Such deposits, however, must be available for the redemption of notes as well as of deposits.

With just a few changes the bill of July 11, 1862, became the national banking legislation of 1863. Adverse opinion delayed the enactment of the 1863 statute until Feb. 25. The principal difference from the earlier bill was that Providence, Chicago, and Saint Louis were added to the list of cities deposits with whose banks could be counted as a part of the reserves of banks located in other cities. The adopted reserve provision applied to notes as well as to deposits.

By legislation enacted June 3, 1864, Congress redrafted completely the first national banking statute.² The substantive changes that interest us were influenced largely by the disappointingly slow progress that had been realized in inducing state institutions to convert into national banks. For all banks except those in 17 designated centers the reserve required against notes and deposits was made 15, instead of 25, per cent. As before, three-fifths of the reserves of (nondesignated) banks might be redeposited. But, since banks in western designated centers had argued that such an arrangement would be unfair and discriminatory, as they would be required to maintain eastern deposits for exchange purposes as well as the 25 per cent vault cash reserve, this statute permitted banks in the designated

¹ Ryan, p. 167.

² "An act to provide a national currency, secured by a pledge of United States bonds, and to provide for the circulation and redemption thereof."

centers to carry one-half of their reserves as demand deposits in New York City. Had this provision been retained (it was modified in 1874) the future course of banking development might have been different. Instead of creating a new set of regional reserve-holding banks in 1913, Congress might have contented itself, perhaps long before 1913, with regulating the operations of New York City depositories in such a way as to compel them to recognize their general credit responsibilities.

It was also provided in the revision of 1864 that banks in the designated centers must choose a New York bank at which their notes could be redeemed. Banks outside the designated centers must in turn select an agent in the designated centers as a par-redemption agent.

By accepting the contention that reserves might properly be redeposited, and that banks outside the redeposit centers should not be required to keep as large reserve percentages, the lawmakers were able to rationalize the writing into law of extremely low reserve requirements. But further liberalizing provisions were yet to be enacted. The first of these was inserted in the Act of June 20, 1874.¹ In that statute the provisions were dropped that applied the reserve ratios against national bank note circulations. These requirements applied henceforth only to deposits. In a sense this completed a cycle in reserve legislation. The first bill introduced after Chase's report provided that legal reserves must be kept only against notes. By 1874 reserve requirements pertained only to deposits.

The act of 1874, it should be said, required all banks to maintain in the United States Treasury at Washington a fund equal to 5 per cent of the par value of their outstanding notes to provide for note redemption. But this 5 per cent fund might be counted as a part of the reserves national banks were required to keep against deposits.

This elimination of notes from reserve provisions does not seem historically illogical when viewed in retrospect. The system of securing notes by government bonds focused attention upon the government's responsibility to maintain their ultimate redemption. If the government kept its own finances in order, the ultimate redeemability of bank notes should be assured by

¹ "An act fixing the amount of United States notes, providing for a redistribution of the national bank currency, and for other purposes."

that fact alone. Bank deposits, however, were solely the obligations of banks. Then, again, the inflationary sentiment of the times favored liberality by the legislature rather than a tightening of the requirements that leading members of the national legislature of 1862 admitted to be too low. But deposit reserve requirements prior to 1862 were not common in state statutes. In imposing such requirements at it did the national legislature probably regarded itself as extending the area of reserve control; and, in a period in which competition of state banks was feared by those anxious to build up the national banking system, it did not seem wise to provide too harsh reserve restrictions.

NEW YORK CEASES TO BE SOLE CENTRAL RESERVE CITY

A change in redeposit provisions was effected by the act of Mar. 3, 1887. Jealousy of New York City as a reserve-holding center led the lawmakers to provide that banks in any city with a population of 200,000 by a vote of three-fourths of their number might get their city designated as a central reserve city bank. Banks in these cities must keep a 25 per cent vault reserve against the total of individual and bank deposits. The motive that might induce them to apply for designation as a central reserve city bank was the privilege of holding on deposit reserves of reserve city banks. Reserve cities in turn might be so designated by the Comptroller of the Currency after a three-fourths vote of banks in cities with a population in excess of 50,000. These banks were required to keep a minimum deposit reserve of 25 per cent, but one-half of this amount might be redeposited in central reserve city banks. Banks in other cities, country banks, could redeposit either in reserve or central reserve city banks three-fifths of their required reserves of 15 per cent.

The result of these provisions, which left it to the discretion of banks to determine, within the outlined population restrictions, the reserve classification of their city, was as follows just before the passage of the Federal Reserve Act in 1913:

Central reserve cities (3)—New York, Chicago and Saint Louis.

Reserve cities (47)—Boston, Albany, Brooklyn, Philadelphia, Pittsburgh, Baltimore, Washington, Savannah, New Orleans,

Dallas, Fort Worth, Galveston, Houston, San Antonio, Waco, Louisville, Cincinnati, Cleveland, Columbus, Indianapolis, Detroit, Milwaukee, Minneapolis, St. Paul, Cedar Rapids, Des Moines, Dubuque, Sioux City, Kansas City (Mo.) St. Joseph, Lincoln, Omaha, South Omaha, Kansas City (Kans.), Topeka, Wichita, Denver, Pueblo, Muskogee, Oklahoma City, Seattle, Spokane, Tacoma, Portland, Los Angeles, San Francisco, and Salt Lake City.

Country bank cities—all remaining cities, approximately 7300 in number.

PYRAMIDING OF RESERVES UNDER THE OLD NATIONAL BANKING SYSTEM

These redeposit provisions had several significant consequences, to one of which attention is directed. It is doubtful if the lawmakers estimated correctly the extent to which the ratio of actual vault cash to deposits was reduced. The actual reserve ratio need not even be as high as the lowest "nominal" ratio of 15 per cent. To illustrate, let us assume a country bank with \$100,000 of deposits requiring reserve. In its own vault two-fifths of 15 per cent would have to be kept as a cash reserve, or \$6000. The remaining \$9000 could be carried as a deposit with a reserve city bank, to which the 25 per cent ratio applied, or \$2250. Of this reserve, however, only \$1125 would have to be held in cash by the reserve city bank. The remaining \$1125 could be held in deposit at a central reserve city bank, against which the cash reserve requirement would be one-fourth of \$1125 or \$281.25. Adding the cash reserves held in the three banks we have \$6000 plus \$1125 plus \$281.25, or \$7406.25, a real cash reserve of less than $7\frac{1}{2}$ per cent of the \$100,000 of country bank deposits requiring reserve.

This pyramiding of reserves, supporting deposits by paper reserves, was also possible, though to a lesser extent, in the case of deposits of reserve city banks. Without illustrating, we may note general results. The Comptroller of the Currency showed in a report issued a few years before the Federal Reserve Act went into effect that all the national banks had reserves of 1404 million dollars of which only 862 millions consisted of lawful currency on hand.

Certain administrative rulings of the Comptroller of the Currency had the effect also of lessening actual reserve requirements. For one thing,¹ the Comptroller permitted banks to deduct from gross individual deposits exchanges for the clearing-house and notes of other national banks on hand. The presumption here was that since these funds were in process of collection, or could easily be collected, they should be deducted from the obligations requiring reserve. Banks were also permitted to deduct "due from other bank" items from sums "due to other banks" in determining net deposits requiring reserve. Of course this ruling helped city bank depositories as a class more than country banks. The latter would generally have an excess of "due from" over "due to" items and could claim no credit for the excess. Depository banks in the financial centers, as a class, however, would be able to offset "due to" items more completely as these generally exceeded "due from" items. Despite the fact that their nominal reserve requirements were lower, only 60 per cent of those of other banks, country national banks constantly offered this fact as an argument for a further lowering of their reserve requirements.

On Oct. 4, 1902, the Secretary of the Treasury issued a circular letter to the national banks stating that penalties would not be enforced on account of failure to maintain reserves against public deposits. Five years later this treatment of government deposits became statutory law. Section 14 of the Aldrich-Vreeland Act of May 30, 1908, exempted deposits of public moneys by the United States in designated depositories from the reserve provisions of the National Banking Act.²

At the time of the Federal Reserve Act deposit reserve requirements of national banks had thus been reduced to very modest figures. But, low as they were, they were seldom exceeded by state requirements applicable to state-chartered banks. Reserves, themselves, would not be expected to go very far in meeting a large foreign drain of gold or the currency demands of frightened depositors. Nor was there any machinery to alter either the reserves or the amount required in the interests of

¹ Ryan, p. 252.

² The exemption of government deposits from reserve requirements is repealed in the Banking Act of 1935.

a national credit policy. Some form of a central banking system was required to assume such power.

REFERENCES

- ROBERT E. CHADDOCK, *The Safety Fund Banking System in New York, 1829-1866.*
ANDREW M. DAVIS, *The Origin of the National Banking System.*
A. BARTON HEPBURN, *History of Coinage and Currency in the United States*, Chaps. IV-VII, XIV-XVI.
J. T. HOLDSWORTH and D. R. DEWEY, *The First and Second Banks of the United States.*

CHAPTER XXI

THE LOGIC OF AMERICAN BANKING DEVELOPMENT

SOUND CURRENCY SENTIMENT IN AN INFLATION-WANTING SOCIETY

Various peculiarities of the American banking system have been pointed out. One is the fixing by statute of minimum deposit reserve requirements. Another has been the general legislative animosity toward branches.¹ A third has been the assumption by large city banks of the some of the powers and responsibilities of a central bank. In the fourth place, mention should be made of the ease with which new banking facilities could be provided. Fifth, there is the fact that, even after a central banking system was inaugurated, we were slow to concentrate note issue powers in its hands. So we could go on. But what we wish to do first is to argue that the fundamental features of our banking development seem to have been the logical consequence of our political and material environment.

It would be expected that, at the beginning of our independent existence, inflationary sentiment would be strong. Our people had a continent to subdue. Land acquisitions and farm clearing, and the development of frontier settlements, absorbed our savings and kept our farmers in constant bondage to the land mortgagee. At the same time, the country was so inadequately provided with specie that the advantages of a money economy were not sufficiently extended and diffused. The monetary problem of our early administrations was that of providing facilities by which the country's stock of specie could be expanded into a large volume of the circulating medium.

Despite this inflationary sentiment, however, the twists of special circumstances were such as to predispose our lawmakers in favor of a "sound currency." The continental notes had almost completely lost value in, then, very recent days. Undoubtedly the framers of the Constitution intended that, at least in time of

¹ See Appendix, Chap. XXI, Note I.

peace, noninterest-bearing obligations of the government should not be issued. Then again political influence at the beginning was largely concentrated in the conservative east. Financial institutions of this section had constantly before them the problem of providing specie for export. Banking operations could not therefore be permitted that would destroy the specie basis of our currency.

This duality of sentiment made it likely indeed that antagonistically operating types of banking institutions should be fostered. For the purpose of handling the government revenue and of providing for its easy distribution throughout the country, as well as to meet the financing needs of the conservative east, closely restricted institutions like the first United States Bank were indicated. In the rural districts, on the other hand, pressure for banks with liberal note issue powers was dominant. What the people did not see clearly was that the operations of the two opposing types of banking institutions could not be confined to separate spheres. The issues of the leniently regulated banks would overwhelm the sounder unless they were restricted by the tactics of the conservative.

INEVITABILITY OF BANK WARFARE

Warfare between the conservative and daring banks was thus inevitable. As a redemption agent a powerful institution like the first United States Bank, with branches in different parts of the country and with the prestige of governmental stock ownership and governmental inspection, would be expected to reflect the interests of the established elements. Directed against its management, however, would be the constant complaints of the inflationary groups. The bank was incapable of mollifying these complaints by concessions. It had to operate as it did, sending home for redemption issues of state banks, or fail to achieve its purpose. It seems to have been inevitable that the question of renewing its 20-year charter would become a paramount political issue. Even had the bank won the first contest, in 1810 and 1811, the struggle would only have been postponed. It required experience with a greatly expanded and unchecked state bank note currency to lead our people to recognize in 1816 the necessity of a second institution, an institution which must repeat the struggle of the first.

Why did not a third United States Bank follow the second, as the second had succeeded the first? Was it the mere accident of the personality of Andrew Jackson? Was it the weakening of political influence in the east? Perhaps so. But other less conspicuous factors were certainly involved. For one thing, developing wealth had produced a more powerful conservative element in the south and east, and this element generally supported stricter banking regulation. Much had been learned, furthermore, about the principles of sound banking in the rich experience laboratory of the early decades. In the previous chapter some of this experience has been set forth in connection with the development of the reserve concept. Then, finally, the specie basis of the nation's currency was becoming more adequate. Particularly true was this after the enactment of the Subsidiary Currency Act of 1853.

The evils of wildcat banks from 1837 to 1863 were serious indeed. All thoughtful observers recognized the difficulties created by the existence in circulation of so many note issues of uncertain redeemability and of varying value. But would the legislation ever have been adopted that was finally to result in the elimination of state bank issues had it not been for the fiscal necessities of the government during the Civil War?

THE CONSEQUENCES OF THE CIVIL WAR

About this we can only conjecture. It is the writer's opinion, however, that sooner or later circumstances would have arisen in which the necessity would have been admitted of organizing a bank, or set of banks, equipped with powers to regulate the country's currency. If such had been the early course of development we would never have provided for the creation of ordinary banks by Federal charter. State-chartered banks very likely would have become the sole members of the central banking system, and in establishing the rules of membership eligibility such uniformity in operations would have been provided as was deemed necessary. Under such a system there would not have been the multiplicity of examination agencies that now exist, and the occasion for serious conflicts in policy between the examining and central banking authorities would have been avoided. A regime of state-chartered institutions would certainly be a more flexible system than that we now have since

each state could permit any desired operations not conflicting with the policies of the central bank. Uniformity would be required only to the extent that the operations of the central system demanded. Perhaps this would be a better system than the present one. Central banking regulations, proceeding as they do from lending agencies, tend to be more effective than examination without other than supervisory contacts with the examined institutions.

THE NATIONAL SYSTEM DELAYS THE ESTABLISHMENT OF SPECIALIZED RESERVE BANKS

As it was, however, the national banking system served to delay the establishment of a central banking system. To this end other factors also contributed. As indicated before, one of the most important of these was the general hostility of American law to branch banking. Banks surrendering state charters and taking out national charters were permitted by the original legislation to maintain their branches.¹ Not until 60 years had passed did a Comptroller of the Currency rule that *de novo* branches could be established and these under decidedly restricted conditions.² If law had been friendly to branch banking development it might have come about, as in other countries, that a few institutions would have acquired much of the power that we now associate with central banks. From this point the evolution of a central banking system would have been easy and certain. One or a few of these institutions would have been given by law the powers and responsibilities of a central bank. Or, if such a course was deemed not feasible, attempts would have been made to render existing banks subservient in important respects to the operations and policies of new institutions created for the purpose.

EFFECTS OF RESTRICTIONS ON NATIONAL BANK POWERS

In the preceding chapter it was pointed out that the deposit reserve requirements were rather mild in the beginning and had

¹ See the act of Mar. 3, 1865.

² Regulations of the Comptroller of the Currency issued Oct. 26, 1923. See *Federal Reserve Bulletin*, November 1923, p. 1197. "National banks will be permitted to establish such offices only within the limits of the city, town, or village named in its organization certificate as the place, where its operations of discount and deposit are to be carried on."

been further reduced in 1874. In other respects, however, national banking legislation in 1913 was rather severe and restrictive. The usury provisions of law kept national banks pretty well out of the business of extending consumer credit. They were not authorized to undertake trust functions. Small banks operating in the bigger centers must be provided with relatively large amounts of capital in order to begin operation. Loans to single parties could not exceed 10 per cent of the paid-in capital stock.¹ National banks could not loan on the security of real estate, and real estate acquired in good faith in satisfaction of debts previously contracted (in examiners' terminology, D. P. C.) could not be held for a longer period than five years.

It would not be expected that a set of banks thus restricted could operate to the exclusion of other banks. Either such restrictions as those pertaining to real estate loans would have to be liberalized or other institutions, either old or new, would take over such business. The former course might be expected if note issue provisions (in particular the imposition of a 10 per cent per annum tax on state bank notes²) had rendered operation of state banks unprofitable. While it probably is true (this is a controversial point) that the issue power was generally profitable,³ it is not to be denied that state banks adjusted themselves rapidly to the developing business of deposit banking, and that in many jurisdictions they were given certain legislative advantages over national banks, for example, in the case of deposit reserves. In view of the lessons of the losses resulting from the making of real estate loans by demand deposit banks, it would not be expected that such business would be permitted the national institutions. It would rather be anticipated that state-chartered institutions would function in the farm and city real estate loan field.

Another matter deserves emphasis in speculations about the possibilities of the maintenance for a long period of the old system. Restrictions we have cited represented intent to drive

¹ Except for the discount of "bills of exchange drawn against actually existing values" and of paper owned by persons negotiating the discount. See section 29 of the act of June 3, 1864.

² Act of Mar. 3, 1865.

³ This question is ably discussed in R. W. Hamlet, *National Bank Notes in Time of Crises*.

national banks into handling the "live" funds of business (commercial banking). What chance was there at the time of the original legislation that the volume of commercial credits would be large? By commercial credits we refer to those bank advances which could easily be identified with particular transactions in commerce. Here it has been often noted that, at the very time the National Banking Acts were passed by Congress, trade practices were being revolutionized. These changes in trade practices led to the elimination of trade paper and to the substitution, generally, of the single-name promissory note. So much of this latter was slow paper that the practice of interbank discounting would not be expected to develop. The more urgent, therefore, became the necessity of creating specialized institutions of rediscount like the Federal reserve banks.

Let us return to the matter of special legal restrictions on national bank operations. Such restrictions increased the necessity of creating other institutions. To these other institutions real estate loans would largely go. So also in later days would it be expected that metropolitan state-chartered institutions would thrive in the developing business of acting as corporate and individual trustees, and further that a variety of specialized institutions would finally be organized to provide consumer credits and to facilitate the investment of savings. By the time this country was really prepared for central banking, differentiation of functions had proceeded far.

WHY CITY CORRESPONDENTS DID NOT BECOME CENTRAL BANKS

But why was the creation of a special set of reserve-holding banks eventually indicated as desirable? It has been pointed out in the previous chapter that the redeposit reserve provisions operated to bestow upon city correspondents some of the functions normally possessed by central banks. City correspondents held a large part of the real reserves of the whole banking system; on Aug. 22, 1907, for instance, more than a third of the cash reserves of 6544 national banks were in the vaults of 38 New York banks.¹ These city banks also made loans to interior

¹ Compiled from figures taken from *Report of the Comptroller of the Currency, 1907*, pp. 222-224.

correspondents. Why then did they not develop into fully equipped central banks?

One of the answers to this question has already been suggested. Opposition to branch bank development operated to restrict the growth of these banks. They were not national but, rather, metropolitan institutions. They were identified by the public with what Wall Street, rather than Main Street, signifies. While the use they made of redeposited reserves might be curbed, it was difficult politically to endow them with greater powers. Rigorous restrictions on their operations, furthermore, might interfere with their ability to pay interest on correspondent bank deposits. What had to happen was that academic criticisms would keep alive the matter of the necessity of a central banking system until such time as adverse circumstances should swing the public dramatically into a mood to find fault and until legislative bodies had developed skill in devising a system that would not seem to be a mere reincarnation of the bank successfully attacked before 1836 by Andrew Jackson.

INSUFFICIENCY OF ACADEMIC CRITICISMS OF THE NATIONAL BANKING SYSTEM

The academic economists did their job efficiently, although on the whole somewhat belatedly. But after the panic of 1907 hundreds of students were able to drone off the "defects of the national banking system" under the prescribed classifications and to provide appropriate physical illustrations. The inability of banks to extend further credits when reserves had fallen to the statutory minima, a condition characteristic of every panic, was discussed under the heading of "rigid reserves." To bring home its significance we were asked what we would think of a fire-fighting system in which the flow of water, even in a conflagration, would be shut off as the supply in the reservoir threatened to fall below the stipulated levels. Or, it would be inquired, should a taxicab driver refuse a bid because the number of cabs at designated points had fallen to that fixed as a minimum by city statute?

Every student was taught to speak glibly of the evils of "decentralized reserves." The difficulty here was that no normally unused reserve was kept for emergency requirements. There was very little discounting between banks and accordingly

no effective means of dispatching reserve funds to the areas where the panic had arisen and from which it threatened to spread. By way of providing a military analogy it was pointed out that our banking system had no army of maneuver. In time of shock all its troops would be found in the front-line trenches. A breakthrough anywhere would have far-reaching consequences.

Third, there was the inelasticity in the supply of the country's bank note currency. National bank notes were more profitable to issue when government bonds were low in market price. The funds required to purchase the bonds were less than if the issues commanded high prices. High interest rates created by panicky conditions, moreover, impaired profits of issue because the bonds generally had to be bought at a premium to secure notes issuable to the par value of the bonds, and the interest forgone was the interest on the funds invested in the bonds at premium. It might very well be, and it generally did happen, that both these conditions, advancing premiums on government securities and rising interest rates, would prevail during panics. Even if these adverse conditions had not obtained the limits within which note issues could be expanded would have been restricted. A large part of the government debt, by 1907, was already utilized as the security for note issues. Much of the rest, held in trust funds and required as security for the deposit of public revenues, was really unavailable for the purpose of securing note issues. Elasticity of the currency supply, particularly in panics, had to be provided by other elements of the currency. Gold could be attracted from abroad, but only at the cost of raising domestic interest rates. Other elements in our currency system were more or less definitely fixed.

There were also lachrymose laments in respect to the inability of national banks to provide acceptance credits. The operations of the independent Treasury were attacked on the ground that, in periods of large revenue receipts, funds would be withdrawn from the banking system and locked up in the Treasury. The practice of redepositing reserves was also attacked, but in ways to which we shall draw later attention.¹

Despite these criticisms, however, there was no complete agreement even among academic thinkers as to whether the

¹ See below, p. 249.

remedy was the creation of a central bank. A central bank could hold reserves idle for emergencies; by rediscounting in time of need for hard-pressed institutions it could offset the rigidity of reserve requirements; it could be provided with elastic note issue powers and its notes might take the place of the national bank currency; and in discounting for ordinary banks it could give rate advantages to "trade" paper. It could also be the depository of government funds and in a variety of ways assist the Treasury's fiscal operations. But many of these difficulties might be corrected, partially at least, without creating a politically unpopular central bank. Banks, by paying a penalty tax, could have been permitted to continue to lend in emergencies even though their reserve ratios were impaired. The banks themselves might be induced to exert pressure on businessmen to create trade paper instead of open book accounts, and supervisory agencies might add to this pressure. Various devices were suggested by which national bank notes might be safely secured by the general assets of the banks, instead of by government bonds alone, and thus produce greater elasticity of the currency volume. Academic economists, moreover, displayed no great skill in devising plans of banking reform according to which a central bank might be made politically palatable.

INFLUENCE OF THE PANIC OF 1907

In a country with our traditions some dramatic episode was required to display the faults of the old system before serious progress could be made toward centralized banking control. Such a sentiment-changing shock was provided by the panic of 1907. In general opinion this was a shameful panic. It began with a run on the trust companies of New York City, with the Knickerbocker Trust Company as the first victim. Thence deposit withdrawals extended to other trust companies, which were permitted to do a deposit banking business with lower reserve requirements than state or national banks. Eventually the run extended to the banks and necessitated the creation of clearing house loan certificates as a means of discharging inter-bank debts. These certificates were also paid out to the public under the agreement of members of the New York Clearing House Association to accept them more or less as the equivalent of other currency. Their issue really constituted a violation of law. So

far as national banks were concerned they were put out against the security of assets other than government bonds.

From the point of view of banking reform, however, what was most significant was the effect of this New York tie-up upon the operations of interior banks. Interior correspondents were unable to withdraw balances freely from the centers of finance. Solely because of New York City conditions and without any apparent obstacle of a fundamental economic character the whole country felt the effects. Previously apathetic bankers then became impressed with the argument that what was required was a central depository for their (other than vault) balances which should be invested from the point of view of easy withdrawal in time of emergency. A central bank, of course, would have this objective.

But what was wrong with the way in which New York City banks had been using the proceeds of interior bank deposits? Since the city banks provided their correspondents with interest-bearing demand deposits the proceeds were invested largely in the call loan, the security, market. The city banks had to be in position to obtain the funds quickly to be able to meet sudden requests by interior correspondents for withdrawals. But call loans, like other loans, were not callable *en masse* and without requiring broker borrowers to dispose of securities bought on margin. Such enforced selling might proceed to an extent that would shake the market severely and add to the forces of liquidation. Later comment will bring out the decidedly deflationary influence of a severe reaction in security prices.

The interpretation here offered is that, without some such shock to contentment as the panic of 1907 provided, and the type of derangement that would destroy the complacency of interior banks, the strengthening of the banking system would have been further delayed. But the analytical criticisms of the old system proved their worth. If they were correct the time would eventually come when self-interest would provide support. Early upsets in the central credit markets, like those of 1873, 1884, and 1893, also had their influence. But their influence had been felt less strongly than that of 1907 for a variety of reasons. One was the fact that the early panics occurred in a period of fundamentally unsettled monetary conditions. Greenbackism and bimetallism were then the central issues in the

drama. After the Gold Standard Act of 1900, however, attention could not be diverted from the problems of banking reform.

The panic of 1907 seemed thus to teach that the seepage of bank deposits into and out of New York should not have the consequence of producing alternating periods of stock market boom and relapse. Bank reserves must be made available to support the "legitimate" requirements of commerce, agriculture, and industry.

SOFTENING ANTIPATHY TO A CENTRAL RESERVE SYSTEM

But how could these central reserves be administered so as to avoid the charges, akin to those of Jackson, of undue concentration of banking control? The Aldrich bill shortly brought out as a result of the appointment of the National Monetary Commission in 1908 did not secure complete public approval in this respect. But the educational work of the commission was invaluable in paving the way for the passage of the Federal Reserve Act in 1913. Among the features of this latter act were the provisions for regional reserve-holding banks. The regional idea was perhaps a cleverer means of allaying distrust of the concentration of financial power¹ than any device contained in the Aldrich bill.

INCOMPLETENESS OF BANKING REFORM IN 1913

For many years after 1913, then, the interest of banking students was destined to center about the administration of the reserve banking system. But central banking is only a part of the larger problem. At the close of 1913, few of the fundamental structural problems of banking had been solved. Rival chartering authorities existed as well as supervisory bodies of varying standards, so that too great strictness in one system might serve only to drive members to the other system; state banking corporations could be created under trust statutes; new specialized institutions were being invented which later were to demand broader powers. At the same time new forces were about to operate to lessen the need for as many institutions as otherwise would be required. Hard surface roads were providing easy access to better equipped city depositories, and the decline in

¹ The Aldrich bill was prepared at the time of the Pujo "money trust" investigations.

local loans was destined to compel bond programs to be adjusted to different necessities than most banks were able to recognize. Neither had the lawmakers in 1913 made any progress in determining the part that commercial banks should play in providing industry with capital credit.

Could the Federal reserve banks so operate that the consequences of these neglects of fundamental problems might be avoided? To try to answer this question would be profitless in view of what was destined to happen in 1932 and 1933.

REFERENCES

On the alleged defects of the national banking system, see:

THOMAS CONWAY, JR., and E. M. PATTERSON, *The Operation of the New Bank Act.*

J. LAURENCE LAUGHLIN, *The Federal Reserve Act, Its Origin and Problems.*
NATIONAL CITIZENS LEAGUE, *Banking Reform.*

O. M. W. SPRAGUE, *History of Crises under the National Banking System.*

CHAPTER XXII

THE RATIONALE OF THE FEDERAL RESERVE ACT

WISDOM OF THE REGIONAL SYSTEM DEPENDS ON NATURE OF RESERVE BANK OPERATIONS

The knottiest legislative problem involved in the creation of the Federal Reserve System was how best to soften the inherited antipathies against any form of a central bank. As it happened, however, the device chosen in the act of Dec. 22, 1913, was to divide the country into a number of districts in each of which a reserve-holding bank would be created. An organization committee was entrusted by the statute with the responsibility of dividing the country into not less than 8, nor more than 12, districts. The only instruction given the committee by Congress was that there should be "due regard to the convenience and customary course of business and [that the districts should] not necessarily be coterminous with any state or states."

How thoroughly did the legislative mandate of "not less than eight nor more than twelve" Federal reserve cities harmonize with other provisions of the act? To answer this question it is necessary to distinguish between the discount (rediscount) powers of the reserve banks and their open market powers. A precise distinction between these powers is not so easy to make as is sometimes assumed. Take first of all the aspect of volition and initiative. It is sometimes stated that, when reserve banks rediscount for member banks, the operation results from an application made by a member bank. There have been cases, however, in which the transaction has been advised by a reserve bank. On the other hand, what is termed "open market" paper may have been acquired as a result of a request by a member bank that the reserve bank buy its paper.

Nor was there a clear-cut legislative distinction between the kind of paper that could be rediscounted for banks and that which could be purchased by the reserve banks in the open market. There was an overlapping here as in the case of bills

of exchange "arising out of actual commercial transactions."¹ As reserve operations developed, however, dealings by the reserve banks in government securities and banker's acceptances came to be the principal elements of reserve bank open market purchases. When, on the other hand, member banks take customers' paper and discount it at the reserve banks, or proffer their own notes secured by such paper or by government securities,² the operation is termed a discount or a rediscount. In the majority of instances, also, bills and governments that are purchased by the reserve banks are not acquired from member banks but from open market dealers.

Not all banker's acceptances purchased by the reserve banks express the initiative of the reserve banks. To support the market for banker's acceptances the reserve banks have generally stood ready to purchase all prime bills dealers have to tender. The purpose here has been to stand behind the dealers in temporary situations in which they are finding it difficult to distribute this paper over the country. The reserve banks have accordingly been obligated to establish the rates at which they acquire bills at levels fixed largely by the technical conditions of the acceptance market. They have not been completely free to adjust their acceptance-buying rates from the point of view of the needs of the country for more or less bank credit.

Too high Federal reserve rates would discourage the use of the acceptance method of financing trade. Too low Federal reserve rates would result in pushing this paper into reserve bank, instead of into member bank, portfolios. A basic reason for the acceptance provisions of the act was to provide a means of mobilizing member banks' surplus funds. This mobilization of credit would not be accomplished if, in the ordinary course, acceptances should not reach member banks. In view of these limitations upon the rate powers of the reserve banks *in re* acceptances, dealings in government securities have assumed crucial importance. It is through purchasing or selling governments that reserve banks express most clearly their opinion whether more or less reserve credit should be provided.

¹ Such paper could be purchased by reserve banks under the authority of section 14e, "Open Market Operations." This type of paper might also be discounted for a member bank.

² As they could after the amendments of Sept. 7, 1916.

What effects are produced by a purchase of governments by the reserve banks? Say, first, these purchases are made from member banks (as is usually not the case). The reserve balances of the member banks would be credited with the amount of the purchase. On the books of the selling bank there would be a reduction on the asset side of its securities owned, which reduction would be matched by a corresponding increase of balances due from its reserve bank.

Suppose, as is ordinarily the procedure, that the reserve bank purchases these securities from a dealer. Suppose also the dealer keeps his account in a bank which is a member of the Federal Reserve System. The dealer gives up securities and receives in payment a draft against the reserve bank. The deposit of this draft at a member bank creates a credit for the dealer, which credit offsets the dealer's loss of securities. The member bank dispatches this draft to the reserve bank and is credited with the proceeds. Member bank deposits on the liability side and member bank reserve balances on the asset side are increased in corresponding amounts. But, since some of its reserve will be required to support the dealer's deposit, the purchase of governments by the reserve bank from a dealer will be slightly less expansive in its effects than if the securities had been purchased directly from a member bank.

Suppose the dealer keeps his bank account with a nonmember bank. The deposit by the dealer of the draft against the Federal reserve will enable the nonmember to increase its balance with a member which does hold a balance at the reserve bank. A member bank's reserve balance is thus indirectly credited. Such also would be the result if the securities were bought by a reserve bank from a nonmember bank.

Purchases of governments by the reserve banks thus have the effect of increasing the outstanding volume of member bank reserves. In opposite fashion, sales of governments by the reserve banks result in diminished reserve balances possessed by the member banks. To illustrate the effects of a reserve bank sale, assume the securities are sold to a dealer who operates through a member bank. The dealer's check is charged by the reserve bank against the member bank's reserve account. The dealer's account at the member bank in turn is reduced.

How do these transactions in government securities compare in their effects with discounts (or rediscounts) with member

banks? The granting of a discount by the reserve bank has of course the same effect as an open market purchase. On the other hand, the maturing of a member bank's note (or a customer's note which the member bank has endorsed) results in a reduction of the member bank's account in the same manner as a sale of paper by the reserve bank in the open market. The member bank's balance at the reserve bank is charged for the amount involved.

Do the reserve banks require powers to discount for member banks as well as to deal in government securities? Without the power to discount, the reserve banks might possibly be handicapped in their ability to restore a depleted reserve balance for a particular member bank. Unless, contrary to usual practice, the securities were bought direct from member banks in need of restoring their balances, a reserve bank purchase of securities might operate to increase the balances of banks not short in reserves instead of those that are.

The member bank with a depleted reserve could sell its assets to banks that possess excess reserves, which reserves have possibly been created by a reserve bank's purchases of governments. But the market for the member bank's assets might not be good at the time. A part of the theory of discounting is that a member bank in good condition, by pledging its assets, should be able to obtain short-term credit, with the approval of the reserve bank, so that during the period of maturity it could arrange gradually to restore its reserve ratio.

On balance, however, should the reserve banks operate in the credit market principally by discounting for members or by engaging in open market purchases or sales? Concerning this problem much has been said. But, whatever the conclusions reached, there is little question that the framers of the act expected that the discounting (rediscounting) process would be the usual mode of contact between member and reserve banks. The objective was to assure to particular member banks in periods of emergency ability to unfreeze the assets they had acquired in providing short-term credit for agriculture, commerce, and industry. To make the new system as acceptable as possible to banks, the thought was stressed that, in obtaining reserve bank accommodation, the initiative would be taken largely by member banks. To appeal to the business, as distinguished from the "financial," interests, the emphasis was upon the power of

the reserve banks to acquire "commercial" paper. Emphasis on the rediscounting process, furthermore, helped to rebut in some measure arguments directed against the proposed system on the ground of the terrific power the management of the reserve banks might be adjudged to possess.

It is believed, therefore, to be generally true that in the beginning open market powers were provided the reserve banks as auxiliary powers, powers subsidiary to those of discount and rediscount. In this the interpreted experience of the Bank of England had been particularly helpful. On occasions in which the Bank of England believed that credit restraints were required in the general interest its first step might be to raise the "bank rate." Rendering discounting more costly, however, as experience had indicated, might not discourage applications with sufficient speed or sharpness. On such occasions it would be typical procedure for the bank to sell in the open market blocks of British consols. Such sales would take funds out of the market and force bill brokers and discount houses short of bank credit to borrow at the Bank of England at the increased rate. Sales of consols were thus employed to make the increase in the bank rate more effective. In order that it could sell, however, the bank previously had to be a purchaser.

If, then, our reserve banks were to be primarily institutions of discount, what type of structure would be indicated as consistent therewith? The logical answer to this question seemed to be to create a number of district reserve banks. As the statute indicated, not only were the physical facts of accessibility important, involving as they did prompt mail communications, but there was also the matter of the special type of industries served. Our country is large and heterogeneous, and the credit practices safely followed in some sections might be ill adapted to other sections. If the management of each district bank was to be locally determined, as it was, the district should be small enough so that the managers could inform themselves reasonably well of credit practices and tendencies in their districts.

Under this conception it was not at all illogical for the organization committee to create in the beginning the maximum number of districts, 12, that the statute permitted. Such procedure also lessened future demands for recognition of important cities not at first provided with a reserve bank. Twelve banks, of course,

would prove to be excessive if the reserve banks should develop primarily as open market operators. By the same reasoning, however, so also would be the minimum number, eight.

REGIONAL BANKS NOT REQUIRED IN OTHER THAN CREDIT MARKET CENTERS TO DEAL IN GOVERNMENT SECURITIES

More, however, should be said about the matter of the necessary number of reserve banks. What would be wrong with even eight reserve banks if their chief activity should turn out to be dealings in government securities? An illustration will perhaps suffice. Suppose member bank reserve balances in New York should be adequate but in other sections too small. Governments might then be bought by the reserve banks other than the New York bank. If these securities could be picked up conveniently and in sufficient volume in the interior districts, all well and good. The chances are, however, that the buying would have to take place largely in the financial centers, New York principally, and from dealers. Such operations would increase member bank reserve balances in New York,¹ where the increased reserves were not needed, rather more than in the interior districts. Along this line of reasoning the futility of creating a reserve bank destined to become principally an operator in the open market but with no finely developed paper market in its district can easily be demonstrated.

Further objections to more than a few reserve banks, as open market operators, lay in the complicated and cumbersome administrative character of the system. To operate most effectively speed and secrecy of action are important. It is difficult to get such action when a number of directorial bodies have to be satisfied and convinced.

THE TYPE OF DIRECTION REQUIRED OF THE REGIONAL BANKS

The basic conception, then, was that the reserve banks should be discount agencies. Who then should select the directorate of each reserve bank? Usually stockholders chose directors. Who were the stockholders of the reserve banks to be? The act provided that each member bank could be required to subscribe up to a maximum amount of 6 per cent of its capital and surplus.²

¹ Because New York dealers maintain accounts with New York banks.

² According to the terms of section II stock would not be sold to the

Who should be the members? Section II of the act provided that all national banks must join the system or give up their Federal charters. State banks might join at their discretion. Their admission, however, would subject them to the same restrictions as law imposed upon national banks in respect to required capital, reserve requirements, and the limitation of loans to single parties.

The decision to provide nine members for each district board was of course partly the consequence of an arbitrary decision. But it was logical that provision should be made for representation of different interests as well as for the selection of board members by different authorities. Under the scheme of having three class A directors chosen by member banks and presumably from bankers, three class B directors chosen by member banks from men "actively engaged in their district in commerce, agriculture or some other industrial pursuit"; and three class C directors as system representatives,¹ the above considerations would be observed. One of the three class C directors was to serve as chairman of the board. But, largely for the purpose of asserting their autonomous and self-governing character, the local boards, without exception, did not vest the chairman with the powers of a principal executive officer. These duties were delegated extralegally to another office, specifically created for the purpose, that of the Governor.

THE NEED OF A SYSTEM-COORDINATING AGENCY

Should the framers of the reserve act have contented themselves with the creation of independent district banks? It was clear that some machinery must be set up to coordinate the activities of the district banks. It seemed essential that no one reserve bank completely overshadow others,² and that the policies of some reserve banks be not nullified by others. The problem, however, was difficult. What was to prevent the coordinating agency, which turned out to be the Federal Reserve

public or purchased by the government unless share capital obtained from banks was insufficient.

¹ To be chosen by the Federal Reserve Board.

² Perhaps by virtue of the fact that it would operate in a more important credit market.

Board, from assuming the power that it was not desired to bequeath to the directors and officers of a central bank?

Here two points were important. Unlike a central bank, the Federal Reserve Board was not a bank and had no funds to lend. In the promulgation of policies, furthermore, its officers would come constantly into contact with men trained in practical banking, the officers of the district banks. Such contacts really provided an area of competition in the field of central banking policy and might be expected to impede capricious decisions. In the second place, the members of the Federal Reserve Board were to be chosen by the President for the purpose of exercising general supervision. They need not be operating bankers. As a matter of fact, in later history, few of them have been men trained in practical banking. The member banks elected a majority of the district boards but had no voice in the selection of the Washington board. Tenure arrangements, 10 years for each of the five ex-officio members¹ after the early short-term appointments should expire, were expected further to ensure the independence and dignity of the Board.

DIVISION OF DUTIES AND RESPONSIBILITIES

But how were duties divided between the Washington and the district boards? It would be within the province of district officers, of course, to determine which discount applications of member banks should be accepted. But the task of defining the qualifications of admissible paper within the confines of the law's provisions, fell to the Federal Reserve Board.

What authority should determine the rates at which paper tendered by member banks would be discounted by the reserve banks? To a layman, as also probably to the courts if there had been a test, the language of the act was not entirely clear. Section 14 d empowered the district banks:

"To establish from time to time, subject to review and determination of the Federal Reserve Board, rates of discount to be charged by the Federal reserve bank. . . ."

¹ The ex-officio members were the Comptroller of the Currency and the Secretary of the Treasury. In 1923 an amendment to the Federal Reserve Act increased the membership of the Board to eight. Under the Banking Act of 1935 the membership of the Board of Governors was again fixed at seven, and there are no ex-officio members.

Under this provision the Federal Reserve Board certainly had the power to veto rate schedules suggested by the district banks. But did it have the further right to initiate a rate change against the wishes of the district banks? In the history of the system a few controversies over this matter developed. It is the writer's opinion that, in a final court test, the power of the Federal Reserve Board to initiate new rates would have been upheld. Without such power the Board might be unable, in the event of dispute, to coordinate in the manner intended by the Congress the activities of the different district banks.

The Federal Reserve Board was also authorized to examine Federal reserve and member banks, to suspend reserve requirements applicable to member and reserve banks, to remove for cause officers and directors of reserve banks, and to exercise general supervision over the district banks. A number of routine powers were also delegated to the Board, such as the granting of trust powers to national banks, regulating the issuance and retirement of Federal reserve notes, and reclassifying reserve and central reserve cities.

Would this setup be expected to be permanent? Much here would depend on the accidents of appointment and the economic fortunes of the country. It will be noted, however, that, in the section delegating open market powers to the Federal Reserve Board,¹ no direct power over open market operations was bequeathed except in the following manner:

"Any Federal reserve bank may, *under rules and regulations* prescribed by the Federal Reserve Board, purchase and sell in the open market. . . ."² This section might have become the framework of an open market policy wherein the Board would do little more than enunciate the objectives and the conditions under which open market paper might be bought and sold. It might easily have come about that the real decisions regarding the extent and timing of such operations would fall within the discretion of the district banks, perhaps those containing important credit market centers. Although tact and good will might be generally exercised, and jealousies and encroachments avoided, it would scarcely be expected that this setup should persist in the event that open market powers should come to be regarded,

¹ Section 14.

² Italics are our own.

from the point of view of their national effects, as more important than discount operations. The original arrangement of powers was based on the assumption that discounting would be dominant and open market operations secondary.

Open market operations eventually did develop to such an extent as to dwarf discount and rediscount operations. At the beginning of 1935 Federal reserve bank holdings of United States government securities amounted to \$2,430,000 out of a total reserve bank portfolio of \$2,472,000,000. On this date, therefore, only about \$1 out of each \$1,000 of reserve bank assets had been obtained through member bank discounts. It would be expected, particularly of a political administration resolved to concentrate credit power more largely in the hands of officials answerable to it, that different administrative arrangements would be provided in the course of time.

GREATER CENTRALIZATION OF POWER PROVIDED BY THE BANKING ACT OF 1935

In the Banking Act of 1935 a Federal Open Market Committee was statutorily set up so that, after Mar. 1, 1936, it would consist of 12 men, five representatives of the district banks and the seven members of the new Board of Governors.¹ Its power over the open market operations of the district banks is assured by the following provision:

"No Federal Reserve bank shall engage or decline to engage in open market operations . . . except in accordance with the direction of and regulations adopted by the Committee." The most important present activity of the reserve banks, therefore, is to be carried on by a committee on which sit all the members of the Board of Governors and in which they outnumber district representatives.

Discount operations may become more significant in the future than they now are. If they do they will be conducted under conditions in which the Board of Governors' control of rates has also been strengthened by the following addition to section 14 of the Federal Reserve Act:

¹ The Board of Governors of the Federal Reserve System takes the place of the earlier Federal Reserve Board, and its number is reduced from eight (since 1923) to seven.

"Each such (reserve) bank shall establish such rates every fourteen days, or oftener if deemed necessary by the board."

The Banking Act of 1935 further strengthened the power of the Board of Governors to adjust (upward or downward) the reserve percentages applicable to member bank deposits. Section 19 of the Federal Reserve Act now provides that the Board, on the mere majority vote of its members, may change requirements within a range the minimum of which would be what they were at the time of the Act of 1935 and the maximum of which would be twice that level. The original act only permitted the Board to suspend statutory reserve requirements for a limited period of time. An additional credit power has thus been granted to the Board. Under the Securities Exchange Commission Act of 1934 the Board of Governors was given the new power of prescribing the amount of an advance a member bank can make on loans the proceeds of which are to be employed for purposes of acquiring securities.¹ Further centralization of power was bequeathed the Washington Board in the Banking Act of 1935 by a number of provisions related to the management of the district banks. The new executive heads of the district banks, under the act of 1935 designated as presidents instead of governors, must be approved by the Board of Governors upon completion of their first term of five years. The following vigorous measure of the first draft of the act of 1935, however, was omitted from the final act:

"No member of the board of directors of a Federal Reserve bank, other than the governor and vice-governor [now president and vice-president] shall serve as a director for more than two consecutive terms of three years each." Cynics argued that the purpose of this provision was to make certain that the Board of Governors in policy discussions would not have to compete with too finely informed district representatives. Advocates of this provision insisted the purpose was to ensure fresh blood on district boards. Evidently the regular accretion of "fresh blood" was not regarded as necessary for the Board of Governors of the

¹ These margin requirements do not apply to member bank collateral loans in which the purpose is to use the proceeds for other uses than the acquirement of securities. Under regulations of the Board of Governors member banks may require borrowers to sign purpose-intention forms to signify that the proceeds of the loan are to be used for business purposes.

system, because the members of this Board, after the expiration of short-term tenures, would hold office for 14 years.

Other provisions increasing the power of the Board over the operations of the reserve system might be cited. But enough has been presented to indicate the extent to which support for centralized power has increased since 1913. In the writer's opinion few of these provisions are likely to be replaced by softer ones in future amendments.

To what forces shall we attribute this change in attitude of our lawmaking bodies? Some explanation has been offered in this chapter. But other factors are involved which require discussion in a separate chapter.

REFERENCES

The following works are suggested to readers totally unfamiliar with the objectives of the original act:

E. W. KEMMERER, *The ABC of the Federal Reserve System*.

H. PARKER WILLIS, *The Federal Reserve*.

For a discussion of the districting problem and controversies regarding the desirable number of reserve banks, see:

CARTER GLASS, *An Adventure in Constructive Finance*.

PAUL M. WARBURG, *The Federal Reserve System, Its Origin and Growth*.

Books written after the system got into operation and which set forth in some degree the economic background of reserve bank credit operations include:

BENJAMIN H. BECKHART, *The Discount Policy of the Federal Reserve System*.

E. A. GOLDENWEISER, *The Federal Reserve System in Operation*.

H. L. REED, *The Development of Federal Reserve Policy*.

H. L. REED, *Federal Reserve Policy 1921-1930*.

CHAPTER XXIII

CHANGES IN FEDERAL RESERVE TECHNIQUE SINCE 1913

CHANGED NOTE ISSUE PROVISIONS

In the last chapter it was pointed out that, by the Banking Act of 1935, the original concept of a regional system of autonomous central banks was quite thoroughly emasculated. The district reserve banks are still in existence, but there is little rediscounting, and control over open market operations is lodged in the hands of a committee dominated by the Board of Governors.

Along with this structural change there have also developed new techniques of operating procedure. In this connection we shall refer first to Federal reserve note issues and we may approach this question from the point of view of member bank reserves.

Under the Federal Reserve Act, of what do member bank reserves consist? Since the amendment of June 21, 1917, these reserves consist wholly of balances maintained by member banks with the reserve banks. The amount of required reserves at various dates is shown in the following table:

MEMBER BANK RESERVE REQUIREMENTS, PERCENTAGES

Classes of deposits and banks	June 21, 1917– Aug. 15, 1936	Aug. 16, 1936– Feb. 28, 1937	Mar. 1, 1937– Apr. 30, 1937	May 1, 1937– Apr. 15, 1938	Apr. 16, 1938– Nov. 1, 1941	Nov. 1, 1941, and after
On net demand deposits:*	13					
Central re- serve city...	10	19½	22¾	26	22¾	26
Reserve city..	7	15	17½	20	17½	20
Country.....		10½	12¼	14	12	14
On time deposits:						
All member banks.....	3	4½	5¼	6	5	6

* Banks are now permitted to deduct "due from" items from gross demand deposits, instead of solely from "due to" items as required prior to the Banking Act of 1935.

At the present time, therefore, a country member bank with net demand deposits of \$1,000,000, and time deposits of \$500,000, would be required to maintain a balance at its reserve bank of \$170,000.

But just what is a balance, a credit, at the Federal reserve bank? It, of course, is merely a promise of the reserve bank to pay lawful "money." Several provisions were inserted in the statute for the purpose of ensuring the redeemability of these balances. Before stating these, however, let us inquire if they do not fundamentally consist of the reserve bank's bill, note, and bond portfolio. Just as the principal assets of a member bank, against its deposit liabilities, are its bonds and loans, so, it might be argued, it is the earning assets of the reserve banks that ensure their ability to meet balances due member banks.

Such a conclusion would of course be partially true. But under ordinary conditions the reserve banks would be decidedly restricted in their ability to sell or otherwise dispose of their assets. To sell such paper to member banks, or to member bank depositors, would reduce member bank balances. Such a procedure, if carried very far, would be highly deflationary. Neither can our reserve banks ordinarily count on finding a large foreign market for their holdings. For one reserve bank to sell its paper to another would result merely in redistributing reserves among the reserve banks. Reserve banks cannot go far in meeting cash demands by disposing of their earning assets.

Partly for the purpose of ensuring that reserve banks would not permit their holdings of reserve cash to go too low in relation to their deposit obligations, the original act, still unchanged in this respect, provided a minimum reserve for the reserve banks of 35 per cent of member bank deposits. Many students disputed the wisdom of this provision. These students insisted that it would be wiser to depend solely on the discretion of the management of the reserve banks. The only modification of the reserve principle that was made in deference to this argument, however, was the provision of section 11 that the Federal Reserve Board might waive the requirements for a period of 30 days, and renew such suspensions for 15-day periods provided that a graduated tax schedule was drawn up and made applicable to the deficiency.

Member bank reserves at the reserve banks are thus supported only to a minor extent by actual currency. Ordinarily, moreover,

only cash in excess of minimum reserves is available at the reserve banks to meet member bank demands. In a liquidating sense, as has been shown, there cannot be large dependence on the sale by the reserve banks of their earning assets. The convertibility of reserve bank deposits thus depends largely upon the ability of the reserve banks to "coin" their assets into recognized currency. The particular devices that have been evolved in monetary experience to ensure the coinability of assets have been the note issue powers of central banks. Equipped with such powers, the reserve banks are in a position to proffer a recognized exchange medium for their deposit obligations.

Had the reserve banks not been provided with note issue powers other provisions of the act would undoubtedly have been considerably different. Fixed reserve requirements against reserve bank deposits would undoubtedly have been regarded as too rigid.

But under what terms should the reserve banks be authorized to issue their notes? In addition to a minimum gold cover of 40 per cent, the original act provided that these notes might be issued only against the security of paper obtained by rediscounting ("notes, drafts, bills of exchange, or acceptances acquired under the provisions of section thirteen of this act"). Later on, however,¹ the increase in open market powers led to the inclusion of purchased acceptances in the list of authorized collateral. Part of the justification for this latter provision lay in the fact that properly executed acceptances provided funds intended just as much for a genuine "commercial purpose" as any kind of paper. Still, however, neither government securities nor member bank notes having government securities as collateral could be employed to secure issues of Federal reserve notes.

This strange situation thus developed during the decade of the twenties; as the reserve banks came to be principally dealers in government securities, their assets accordingly tended to consist more and more of a type of paper that could not be coined, even in periods of emergency, into Federal reserve notes. The generally strong reserve condition of the reserve banks seemed to make any alteration of note issues powers unnecessary. But a situation was later to develop in which surplus reserves would diminish dangerously. During this period of uncertainty the

¹ Amendment of Sept. 7, 1916.

reserve banks were restricted in the acquisition of governments. Such governments, when purchased by the reserve banks, would provide member banks with balances against which maturing member bank notes could be charged. But government securities would then take the place of discounted bills in reserve bank portfolios. Since these governments, however, could not be used as note issue collateral, the reserve banks' gold, under the terms of the law, had to be earmarked as note collateral. To this extent the gold holdings of the reserve banks would be unavailable as reserves against deposits.

While these conditions were developing, the danger of impairing the ratio of free gold to note liabilities restricted reserve banks from purchasing governments to the extent that otherwise was regarded as necessary. Technical note issue provisions, instead of managerial discretion, came to a certain extent to be the determinant of reserve bank policy. Since the type of policy thus indicated was unpopular with the administration, the earlier provisions of the law had to be modified. This was done in the Glass-Steagall Act of Feb. 27, 1932. Under this amendment the collateral for Federal reserve notes might consist of the direct obligations of the United States government. The original amendment conveyed this power for only three years. Since 1935, however, the provision has been several times extended. The writer predicts it will become a permanent feature of our banking law.

Was the Glass-Steagall provision above referred to good law? About this much has been written. In the opinion of the writer it was merely a belated recognition of the change that had been developing for many years in Federal reserve policies and techniques. The discount operations of the reserve banks had been losing ground, and reserve bank policy was coming to consist more and more of dealings in government securities. To exclude the reserve banks' principal asset from note issue collateral was in essence to say that the coinability of these assets was prohibited. Such a dictum could never be expected to survive a serious emergency.

The above is not to take one side or the other in the interesting question of the wisdom of steering the reserve banks so largely into government security dealings. But if expanded dealings in governments were unwise, the restriction should have been

inserted in the open market, not in the note issue, section of the act.

FURTHER REASONS FOR THE INCREASE IN RESERVE BANK DEALINGS IN GOVERNMENT SECURITIES

But why in history have dealings in governments thus developed supremacy? To avoid long references to particular episodes the following factors may be stressed:

1. It early was found necessary to impose other than rate restraints against discounting by member banks.

2. There have been periods in which the reserve bank management has been impelled to seek more powerful devices for producing credit expansion than discount rate reductions.

3. The market for banker's and trade acceptances never became sufficiently broad and stable to permit the reserve banks to depend, for general effects, largely upon dealings in this class of paper.

The first point would seem to indicate that there have been periods in which the principal apprehension of the reserve bank managements was how to confine applications within reasonable limits. There is little question that the discount privilege was greatly abused in many sections of the country in the period following the Armistice in 1918 and up to the spring of 1920. Many banks then looked upon discounting as a source of profit. Rediscount rates were kept reduced, during the greater part of 1919, largely as a consequence of the Treasury's desire to complete its financing of war disbursements in a low interest market. Expanding business and rising prices provided a temporary outlet for more and more credit. Too many banks then argued that the reserve banks belonged to them and should contribute, when called upon, to the country's pool of productively used credit.

After the serious price collapse of 1920 many member banks were found to be excessively indebted to the reserve banks. Until the situation could be remedied, such banks would be in no strong position to contribute to their community's credit needs. A reserve bank policy of creating reserves by purchases of governments seemed to be indicated. At the same time, however, it was agreed that further "unnecessary" borrowing by these banks should be discouraged. By education and advice the reserve banks, as well as the sounder member banks, endeav-

ored to develop the precept that, no matter what the schedule of discount rates, member banks should not engage in permanent borrowing. Discounts should be confined to periods of seasonal or emergency deposit withdrawals when local pressure for funds was abnormally intense or, perhaps, to longer periods of cyclical distress.

But why not employ rate controls for the purpose of controlling unwanted applications? Many difficulties lay in the way of such a policy. Banks whose holdings of low-rate marginal paper were large could easily be restricted by comparatively small increases in discount rates. As against these banks, however, there would be others which heeded less the importance of maintaining adequate secondary reserves and whose discount applications would be dictated more largely by comparisons of the Federal bank's charge with that borne by local loans. Then, again, sectional differences in interest rates presented complications largely political in character. Reserve discount rates sufficiently high in some sections of the country to restrain a fair portion of profit-inspired applications would arouse charges, difficult to refute, of regional discrimination. The safest course seemed to be to lower rates to levels sufficient to aid "legitimate" borrowers, but to employ direct methods of discouraging unnecessary applications.

These "direct methods" were several and varied, ranging from advice, and the setting up of maximum borrowing lines, to direct refusal of applications. But whatever the weapon, its enforcement was rendered easier by promulgating the rule that ordinarily a bank should employ its own resources, not those borrowed from the reserve or other institutions.

This "rule" against permanent discounting was a rather unexpected development of Federal reserve policy. It had consequences that could not be adequately foreseen. For one thing it tended to restrain discounting in periods in which the general desire of the reserve authorities was to encourage the use of more reserve credit than would be automatically generated merely by low discount rate charges. The year 1924 proved to be such a period. Partly for the purpose of restricting the flow of gold from Europe and partly on account of agricultural depression in many sections, the dominant authorities in Federal reserve councils desired a quick easing of credit conditions.

Open market operations were resorted to. The reason for the large reserve bank purchases of governments in 1927 was substantially similar.

WHY OPEN MARKET PURCHASES WERE CONFINED LARGELY TO GOVERNMENT SECURITIES

But even though historical necessities have encouraged the use of open market operations, why is it that they have come to consist principally of dealings in Federal government issues? Other kinds of paper might be bought and sold under the authority of section 14. One of these types, municipal securities (largely tax anticipation warrants), was acquired comparatively extensively in the early days of the system, 1914 to 1916. At that time Federal obligations were not obtainable in large volume, and the lack of a strong rediscount demand forced the reserve banks to turn to municipals for income purposes.

Dealings in municipals involved many objections. To select between issues so as to avoid the doubtful would subject the reserve banks to charges of sectional discrimination or require defense of decisions by making uncomplimentary references to the credit of particular communities. Then, again, not all municipals command as broad a market as is essential for reserve bank dealings. It is necessary that securities be purchased not with primary reference to the state of the investment market but to meet the requirements of business for more or less credit. Such securities, however, should command a broad and steady market so that possible losses resulting from sales would be minimized. The average municipal did not possess these qualities to the same extent as Federal government obligations. Whether this will always be true, however, cannot be guaranteed.

The precedent created by any long-continued dealings in municipal obligations might for other reasons have been extremely embarrassing. Municipal corporations do not consist solely of cities and towns. They include also jurisdictions created for drainage of swamp areas, for rural schools, for irrigation purposes. These areas are often undeveloped economically, and their credit is often unseasoned. But it would be to support the market for these developmental bonds that the strongest political pressure would be brought to bear on the reserve banks. The

safest way for the reserve banks to resist such pressure would be to remain completely aloof from dealings in any type of municipal obligation. This the reserve banks were in a position to do when the volume of Federal issues increased so greatly after our entrance into the first World War.

But what about acceptances, trade and banker's? These might be purchased by the reserve banks under the authority of the following language in section 14; "bills of exchange arising out of commercial transactions." We are dealing here with a subject that cannot be adequately discussed without giving it more attention than its present importance deserves. It may be repeated,¹ however, that the trade acceptance after 1915 did not make the expected progress in displacing the much-criticized open book account. One of the reasons for its failure to become popular goes back to the price and industrial collapse of 1920. This was largely an inventory crisis. Firms caught in an overbought condition frequently confessed that the improper use of the trade acceptance was a contributing factor to their difficulties. Often, after the normal amount of book credit had been given, buyers would continue to finance purchases by accepting seller's drafts which could be readily discounted at banks and thence rediscounted with the reserve banks at preferentially low rates.

Overbuying thus induced should not strictly be charged against the trade acceptance. It was more a matter of the improper use of the acceptance. But the reputation of the instrument suffered none the less. In the following years it became difficult to originate trade acceptances except in situations in which the seller anticipated slow collections and employed the trade draft as a means of forcing payment.

Reference has previously been made to the difficulties encountered in adjusting Federal reserve buying rates on banker's bills for the purpose of credit regulation. The banker's bill has developed for itself a firm place in export and import financing, and it was only in connection with foreign trade that banks were permitted to accept under the first draft of the Federal Reserve Act. By amendments enacted Sept. 7, 1916, however, acceptances were authorized to finance the domestic shipment of goods as well as the storage of "readily marketable staples." With the

¹ See above, p. 95.

authorization of domestic acceptances it was hoped that bill markets would develop in various centers of the country, and that these would add to Federal reserve open market fodder.

Despite a not-negligible growth of the domestic acceptance, however, our banks continued to emphasize the straight loan as a means of extending credit. In retrospect this outcome is not difficult to explain. Even in foreign countries, such as Germany, the practice of circulating negotiable trade drafts has tended to dwindle. In this country the Federal Reserve System has been administered in such a way as to assure a larger supply of local credit in most sections of the country than is required. Under these conditions it has generally been difficult to convince bankers that it would be wise for them to suggest to customers that their sales be financed by drawing drafts, either against the local bank or an accepting house in the financial centers which would divide commissions. Banks have preferred to accommodate customers by the straight loan.

Government securities, on the other hand, are outstanding in large volume, first as a consequence of first World War financing, second as a result of the spending policies of the Roosevelt administration. It is virtually correct, therefore, to define the reserve banks as institutions equipped to produce general effects on the credit market by alternate purchases and sales of government obligations. Under present conditions discounting is almost negligible.

THE "SCISSORS" ACTION OF DISCOUNT AND OPEN MARKET OPERATIONS

But the collapse of discounting is a recent phenomenon and may not be a permanent one. In the decade of the twenties obliteration of rediscounting was not contemplated by the Federal reserve authorities. The accepted technique of control was then somewhat as follows: When it is desired to create looser credit conditions let the reserve banks buy governments so that the average member bank will be less in debt to the Federal reserve banks. On the other hand, when restraint is their aim, the reserve banks can sell governments so that member banks will be forced to discount. When in debt to the reserve banks member institutions would be expected to extend credit with more conservatism than otherwise. Open market dealings in govern-

ments exerted their influence, under this formula, not so much by changing the size of member bank reserves as by altering the amount of member bank indebtedness.

A few illustrations will show the influence of open market operations during the decade of the twenties upon the outstanding volume of member bank discount indebtedness. In the calendar year of 1924 the reserve banks increased their purchases of governments by 406 million dollars. In the same period bills discounted decreased by 596 millions. Again, in 1927, reserve bank holdings of governments increased by 289 millions while bills discounted fell by 119 millions. In 1928 and 1929 the reserve banks were engaged in measures of restraint, undertaken largely for the purpose of curbing the speculative use of credit. Between Jan. 7, 1928, and Oct. 5, 1929, reserve bank holdings of governments were reduced from 603 to 148 millions, or by 455 millions. In the same period the discount portfolio of the reserve banks increased by 383 millions.

During the Roosevelt administration, however, the old formula of driving member banks in and out of debt went completely by the boards. Credit stimulation was pushed so far by various devices that discount indebtedness practically disappeared. Open market purchases cannot now be counteracted very much by reduced discounting, so an increase in government security holdings of the reserve banks is today more likely to spell an increase in member bank reserves, and vice versa.

CHANGES IN DISCOUNTABLE PAPER AND IN THE SECURITY FOR MEMBER BANK NOTES

In the early days of the Federal Reserve System, many fears were expressed that eligibility rules would be made so strict that the average bank, even in periods of severe emergency, would be unable to derive much benefit from membership. These fears, however, proved to be exaggerated. The early rulings and regulations of the Federal Reserve Board, in rediscounts, were extremely liberal.¹ Pay-roll and raw material paper was not excluded from the category of self-liquidating paper; even building contractors' notes were held eligible if the contractor was operating under a sales contract. Farm paper might be discounted even if part of the proceeds was intended to

¹ See Harold L. Reed, *Development of Federal Reserve Policy*, Chap. IV.

meet the farmer's living expenses, and farm tractor paper was also interpreted to be eligible because of the similarity of work that would be done by the use of tractors and by live stock.¹ After the amendments of Sept. 7, 1916, moreover, member banks could borrow on their own notes with government securities or eligible paper as collateral.

During the decade of the twenties, however, a good many banks got heavily involved in loans to purchasers of corporate securities. After the stock market collapse of 1929 many of these banks tended to refrain from compelling collection of this paper until the market had improved to a "reasonable level." In the meantime, faced with a reserve shortage because of deposit withdrawals, these banks discounted their eligible paper so that their portfolios came to be devoid of the means of tapping Federal reserve credit to the extent further withdrawals might necessitate.

The Glass-Steagall Act of Feb. 27, 1932, endeavored to provide some relief for this situation by empowering reserve banks to make loans to member banks secured only to the satisfaction of the Federal Reserve Board. Such loans, however, could be made only if the applying bank was in "exceptional and exigent circumstances." These loans would bear a discount rate 1 per cent above the highest rate otherwise in effect at the bank's reserve bank. This section (10 b) of the Federal Reserve Act was to be valid only until Mar. 3, 1933. In the Emergency Bank Act of Mar. 9, 1933,² it was extended until Mar. 3, 1935. In the Act of Aug. 23, 1935, this section was permanently incorporated in banking law with only a few changes. The requirement that such advances could be made only "in exceptional and exigent circumstances" was dropped and the rate penalty was reduced to 0.5 per cent.

On Oct. 1, 1937, the Board of Governors of the Federal Reserve System issued new regulations, A, governing discounts and advances to member banks. In these regulations and accompanying explanations of policy³ a few points were made that require emphasis. Thus:

¹ Section 13 of the original act made live stock, as well as agricultural paper with a maturity at the time of discount of six months, eligible for discount at the reserve banks.

² An act of Feb. 3, 1933, had extended this act until Mar. 3, 1934.

³ See *Federal Reserve Bulletin*, October, 1937, pp. 977-983.

1. The basic principles of Federal reserve discount policy should be the effects of the advance on general credit conditions and on the management policy of the applying bank. The particular form that the paper offered as security for the advance should take was not regarded as of fundamental importance.

2. In passing on quality, however, broad and liberal rules of construction should be observed. Account should be taken of the fact that with the increase in time deposits the character of bank assets has tended to change. While the regulation listed certain specific types of eligible paper it was stated that it "bars no paper from use as collateral for advances but merely indicates a class of preferred paper which covers all the principal fields of financing."

3. Broader interpretations of eligibility, however, do not necessarily mean easier access to the reserve banks. "A bank is not entitled to credit from a Federal Reserve bank merely because it has eligible and acceptable paper, if the conduct of the bank's business has been such as to endanger its depositors or to promote the development of unsound conditions."

These new regulations were of course required if the reserve system was ever to bring its discount provisions into line with numerous other provisions of the Federal Reserve Act requiring attention to be paid to general credit conditions. The marvel is that it took so long to abandon lip service to outmoded conditions.

CHAPTER XXIV

FACTORS INCREASING OR DECREASING THE VOLUME OF MEMBER BANK RESERVES

VARIETY OF FACTORS THAT AFFECT MEMBER BANK RESERVES

From various discussions it might appear that, whenever the reserve banks purchase governments or strive to encourage rediscounting by member banks, they desire easier credit conditions, while, on the other hand, sales of governments or increases of discount rates indicate reserve bank intent to produce tenser conditions than have existed. Before accepting any such deductions, however, it is necessary to inquire whether other factors than discounting or open market operations may not have been operating to alter the volume of member bank reserves. If such other factors have been decisively operating in an expansionistic direction, modest sales of governments by the reserve banks might even indicate the desire of the reserve banks to ease, instead of to tighten, interest rates. This would follow from the fact that the selling of governments was not sufficient to offset the expansionistic influences of other factors. Similarly, purchases of governments by the reserve banks might not go far enough to fill the gap in member bank reserves created by other forces.

What are these other forces? What makes it a little difficult to measure their influence is the fact that under some circumstances a particular force will be accompanied by different results than under other circumstances. Take, for instance, the matter of gold imports (and, so that we may not be confused by the recent requirements that this gold must be delivered to the United States Treasury, assume a year prior to 1933). Gold might reach Bank A, on whose books a deposit would be created, and thence be dispatched to a Federal reserve bank for credit to A's account. If A had a sufficient reserve balance previously, the effect of this operation would be to build up a surplus reserve and thus encourage expansion. But if A were indebted to the reserve bank, the credit realized by forwarding the gold would

probably be employed to cancel the indebtedness of *A* to the reserve bank.

A gold inflow might thus correlate either with an increase of member bank reserves or with a decrease of member bank indebtedness to the reserve banks. An issue of silver certificates, of greenbacks, or any form of Treasury currency might also be accompanied by either of the above dissimilar results. Further, an open market sale of government securities might force member banks either to discount with the reserve banks or to adjust their condition to a reduction in their reserve balances.

Since particular forces may have dissimilar consequences it is necessary to adopt a bookkeeping fiction to show the relative statistical influence of all factors operating on member bank reserves. Let the forces that would increase member bank reserves, unless other factors should intervene, be assumed to do so. Then, if these other forces do operate, let them be classified in separate categories. Or, in other words, consider member bank reserves as a balancing item like that of the profit and loss account in ordinary bookkeeping.

This is not to say that it would be impossible to devise a credit bookkeeping system in which some other factor than reserve balances would be the balancing item. The volume of bills discounted could be such a factor. The forces operating to diminish the necessity of borrowing could be set against the forces compelling member banks to borrow. On occasion, member bank debt may be more determinative of loan and investment policies than the height of member bank reserves. But, on the other hand, we may be obliged to contrast situations in which the size of reserve balances differs. In recent times there has been little reserve bank discounting. The significant policy question, now, is the desirable volume of member bank reserves.

FACTORS AN INCREASE OF WHICH TENDS TO EXPAND MEMBER BANK RESERVES

From the point of view of the effect on member bank reserve balances, we have the following factors, an unoffset increase of which operates to enlarge, or a decrease of which tends to diminish, reserve balances of member banks:

1. Bills discounted by the reserve banks.
2. Bills bought by the reserve banks.

3. Reserve bank holdings of United States Government securities.

4. Other reserve bank credit.

5. The stock of monetary gold.

6. The volume of Treasury currency.

The first three items have been sufficiently explained in previous discussions. As the reserve banks acquire assets in the form of bills or securities, payment is made by tendering claims against the reserve banks which on collection become member bank reserves. "Other reserve bank credit," the fourth factor listed above, includes a variety of items. On June 19, 1934, Congress decreed (section 13b of the Federal Reserve Act) that, in exceptional circumstances, when an established business "is unable to obtain requisite financial assistance on a reasonable basis from the usual sources," the Federal reserve banks may make working capital loans for a period running up to five years. This legislation marks a point of departure from the earlier theory that the reserve banks should not make direct discounts but should deal with banks. The acquirement of 13b paper by the reserve banks would increase the volume of member bank reserves in the same manner as if acceptances were purchased from dealers or bills discounted for member banks. Other Federal reserve credit also includes purchases of debentures of intermediate credit banks¹ and municipal warrants, and also the Federal reserve bank "float."² This latter expression refers to the fact that as a collection agency for member and nonmember banks

¹ The act of Mar. 4, 1923, the "agricultural credits act of 1923" was intended to provide additional credit facilities for agriculture. The basic theory of this legislation was that, although the Federal Reserve Act permitted the rediscount of short-term agricultural and livestock paper, and the Federal farm loan system of 1916 was organized to extend long-term credit, agriculture, nevertheless, was suffering from inadequacy of medium-term credit facilities. The act of 1923 thus provided for the establishment of intermediate credit banks and authorized the discount by the reserve banks of their debentures.

² On Mar. 5, 1941, "uncollected items" of the reserve banks, an asset account, amounted to 888 million dollars. On the same date "deferred availability items," on the liability side, amounted to 845 millions. The difference, or 43 millions, indicates the liberality of the reserve bank time schedule, in accordance with which credit is given for collection items. It would be impossible, of course, to devise a time schedule according to which reserve accounts would be credited in exact synchronism with collections.

the reserve banks may give credit for items they collect somewhat in advance of the time on which the drawee bank's account at the reserve bank is debited.

Since Jan. 30, 1934, the title to all monetary gold has been vested in the United States Treasury. The Treasury purchases gold by drawing against its Federal reserve account in favor of the seller of the gold. The deposit of this draft increases a member bank's reserve balance at the "fed."

Treasury currency includes the stock of currency for which the Treasury is responsible, standard silver dollars, silver bullion against which silver certificates and Treasury notes of 1890 are outstanding, subsidiary silver and minor coin, United States notes (greenbacks), and, under certain conditions which later will be discussed, national bank notes and Federal reserve bank notes.¹ If there is an increase in the stock of Treasury currency and no change in the amount of "money" in circulation or in any other offsetting account, member bank reserve balances would be enlarged proportionately.

The above are factors an unoffset increase of which enlarges member bank reserves. Let us see the extent to which each of them was responsible for the changes that did occur in member bank reserves in the period from Jan. 4, 1939, to Jan. 3, 1940. Thus:

Factor	Jan. 4, 1939*	Jan. 3, 1940*	Increase (+) or decrease (-)*
Bills discounted.....	4	7	+3
Bills bought.....	1	0	-1
U.S. securities.....	2,564	2,484	-80
Other reserve bank credit.....	35	73	+38
Gold stock.....	14,565	17,697	+3,132
Treasury currency.....	2,800	2,963	+163
Total.....	19,969	23,224	+3,255

* In millions of dollars.

FACTORS AN INCREASE IN WHICH TENDS TO DESTROY MEMBER BANK RESERVES

The net effect of these items (with offsetting factors yet to be mentioned assumed to be unchanged) must have been to

¹ See below, pp. 288-289.

increase member bank reserves by 3255 million dollars. But what about factors an increase of which destroys, that is, consumes, member bank reserves?

First of all we have the account "money" (currency) in circulation. This item may be roughly described as all United States currency in existence outside the reserve banks and the Treasury.¹ This item increases at the expense of member bank reserves (that is, increases prevent reserves from being as large as they otherwise would be).

An increase of Treasury cash and Treasury deposits with the Federal reserve banks is also at the expense of member bank reserves. Treasury cash may be loosely described as government till money. It does not include gold held against gold certificates, or silver held against silver certificates, or gold held for the Federal reserve banks. Such inclusions would involve double counting. Treasury deposits at the reserve banks are similar to member bank balances at the "fed" except that their owner is the United States government. An enlargement of Treasury deposits may be regarded as a factor operating to diminish member bank reserves. The effect of an increase in this item might be nullified, of course, by an increase of "money" in circulation. But, if this does occur, "money" in circulation would show this fact.

"Nonmember deposits" include balances with the reserve banks of nonmember and foreign banks. This item is also one in which an increase not offset by other factors would be accompanied by a diminution of member bank reserve balances. The larger are nonmember deposits, other factors assumed to be unchanged, the smaller must be member bank reserves.

"Other Federal reserve accounts" refers to the fact that there are certain previously undesignated transactions of the reserve banks which affect the volume of member bank reserves. An increase in member bank capital stock resulting from member bank subscriptions (required because member bank's capital and surplus have perhaps grown)² would be charged against

¹ Except for gold coin. See below, pp. 290-291.

² Member banks may be required to subscribe to reserve bank capital stock to an amount equal to 6 per cent of their capital and surplus. Thus far they have been called on for subscriptions equal only to 3 per cent of their capital and surplus.

member banks' reserve account. Similarly, an increase in the reserve banks' surplus, as a result of profitable operation, would mean that funds have been withdrawn from the market so as to affect adversely member bank reserves, unless other accounts change. If so, these other accounts will show the fact. The greater the discount income received from member banks, or interest collected on government securities held by the reserve banks, the higher the rental payments made to the reserve banks by office occupiers in reserve bank buildings, the less reserve bank wage and salary disbursements, the larger will be "other Federal reserve accounts" and the smaller, other things equal, will be member bank reserves.

In the period selected for illustration, Jan. 4, 1939, to Jan. 3, 1940, what influence should be ascribed to the factors that correlate negatively with member bank reserves? The following figures reveal the facts:

Factor	Jan. 4, 1939*	Jan. 3, 1940*	Increase (+) or decrease (-)*
Money in circulation.....	6,839	7,581	+742
Treasury cash and deposits at the reserve banks.....	3,616	3,018	-598
Nonmember deposits.....	436	653	+217
Other Federal reserve accounts	258	251	-7
Total.....	11,149	11,503	+354

* In millions of dollars.

During the period the items an increase of which operates to expand member bank reserve balances were shown to have increased 3255 million dollars, and items an increase of which diminishes member bank reserves increased 354 millions. The difference, or 2901 millions, ought to be the amount of the increase in member bank reserve balances in this period. What were the facts? In the period under illustration member bank reserves increased from 8819 to 11,721 million dollars, or by 2902 millions. The discrepancy of 1 million can be attributed to the taking of the figures to the nearest million only.

This bookkeeping summary represents one of the most valuable contributions to credit market analysis that has been made. In

its development Mr. W. W. Riefler played a leading role.¹ The regular publication in the *Federal Reserve Bulletin* of the factors operating to create and consume member bank reserves has done much to prevent mistaken surmises regarding the effect of Federal reserve operations and of the motives of the system's administrators. It has been possible with this tool to discern with precision whether the net effect of Federal reserve discounting and open market dealings has been to diminish or accelerate the influence of other factors.² The scheme also provides a more exact basis for prophecy regarding the future volume of member bank excess reserves and, consequently, of the state of the money market.

REVISION OF THE EXPLANATION

Another manner of statement may be helpful in that it will enable us to drop the oft-repeated expression "other things equal."

It will be evident that operations of the Treasury and of the reserve banks which provide funds to the market must bring about an increase either in member bank reserves, in nonmember bank reserves, in Treasury reserve balances, in the amount of "money" in circulation, or, finally, in Treasury cash. A decrease in the supply of funds, on the other hand, must be reflected in a reduction in one of the several accounts showing their possible destinations. A credit balance sheet may thus be drawn up, the figures of which apply to a particular date, as follows:

Federal reserve credit (bills discounted plus securities purchased plus other advances) plus monetary gold stock plus

¹ See W. W. Riefler, *Money Rates and Money Markets in the United States*, Chap. VII and Appendix II. See also *Federal Reserve Bulletin*, July, 1935, pp. 419-428.

² From October, 1931, to April, 1932, reserve bank holdings of acceptances diminished by over 700 million dollars. This decline was not offset by increased holdings of governments. In regard to this episode, Lauchlin Currie says: "It is incredible that the reserve banks, had no alteration taken place in their holdings of acceptances from October to April, would have sold \$700 million of government bonds." This is another way of saying that attention must be directed to all factors bearing on member bank reserves. See Lauchlin Currie, *The Supply and Control of Money in the United States*, p. 141. (Harvard University Press, Cambridge, 1934, reprinted by permission).

Treasury currency equals nonmember bank balances at the reserve banks plus Treasury balances at the reserve banks plus Treasury cash plus "money" in circulation plus miscellaneous uses of reserve credit plus member bank reserves.

Or, to transpose all but one of the accounts that indicate absorption of available funds:

Federal reserve credit plus monetary gold plus Treasury currency minus nonmember reserve balances minus Treasury cash minus "money" in circulation minus miscellaneous uses of reserve credit equals member bank reserves.

The sources of information for all the above-stated accounts are just two, the condition statement of the reserve banks and the Treasury circulation statement.

Difficulties arise in making the necessary adjustments of the raw figures presented in these statements. Some of these which have not yet been explained will be discussed in the closing section of the chapter. Fortunately, however, the Board of Governors of the Federal Reserve System, in its weekly press release and in its monthly organ, the *Federal Reserve Bulletin*, provides a breakdown of the factors operating upon member bank reserves.

CHANGES IN A FIVE-YEAR PERIOD

Let us show the influence of the different factors on the course of member bank reserves in a recent period of five years. In this period (end of 1934 to the close of 1939) bills discounted remained unchanged; bills bought diminished 6 millions; United States government securities increased 54 millions; other Federal reserve bank credit increased 82 millions; gold stock increased 9406 millions; and Treasury currency grew 452 millions. The total net increase exerted by these factors, therefore, was 9988 million dollars. In the same five-year period "money" in circulation increased 2062 millions; Treasury cash and Treasury deposits diminished 107 millions; nonmember deposits increased 464 millions; and other Federal Reserve accounts increased 10 millions. The total increase of accounts indicative of the consumption of member bank reserves was 2429 millions. Member bank reserve balances thus increased by the difference between 9988 and 2429 millions, or 7559 millions.¹

¹ Actually the increase in member bank reserve balances was 7557 millions. The discrepancy is due to taking figures to the nearest million only.

How large was this expansion in terms of requirements? At the close of December, 1939, total member bank reserves were 11,653 million dollars. The increase since the end of 1934 was therefore about 65 per cent of the 1939 total. To what extent was this 7559 million dollar increase due to Federal reserve operations? As the figures above indicated, only 130 millions was due to reserve bank increases in bills, securities, and other paper. The two large factors explaining the increase in member bank reserves were increased gold holdings and increased issues of Treasury currency. Gold stock increased by the tremendous figure of 9406 millions and Treasury currency by 452 millions.

Could the reserve banks have operated in such a way as to prevent the building up of the (Dec. 27, 1939) excess reserves of 5046 millions? The answer is that 5046 million dollars is almost twice the total of all Federal reserve credit then outstanding. Reserve bank sale of all earning assets, except for possible indirect effects, could not have prevented an expansion in member bank reserves. Member bank reserves had their origin primarily in gold imports. To learn the causes of these imports we shall be obliged to wait for another chapter.¹

The question is asked frequently if government spending operations have not been largely responsible for the recent terrific increase in member bank reserve balances. Government spending results of course in the transfer of deposits at the reserve banks from the Treasury to various member banks. But the Treasury's account had previously to be built up by withdrawing member bank reserves. This transfer of reserve balances from the member banks to the Treasury is accomplished of course principally by taxation and by borrowing (the latter largely from banks). Government spending thus means the restoring to member banks of reserve balances that previously had been withdrawn from them.

But what forces have put member banks in a position to subscribe to United States obligations and thus supply the Treasury with reserve credit? The answer of course is primarily gold imports and secondarily new issues of Treasury currency.

Does the above analysis reveal any previously unmentioned power over credit market conditions acquired by the monetary authorities? The building up of the Treasury's account at the

¹ See below, pp. 378-390.

reserve banks operates of course to reduce member bank reserves. But for the Treasury to take in more than is paid out requires it either to tax in excess of expenditures or to incur the expense of paying interest on Treasury securities issued in excess of disbursements. It is not likely, therefore, that the device of enlarging the Treasury's reserve balance will often be carried out to a significant extent. Neither is it probable that the rapid disbursement of previously accumulated Treasury balances can be heavily used for the purpose of easing the credit market.

LIMITS OF CREDIT EXPANSION—THE IMPORTANCE OF CHANGES IN THE AMOUNT OF "MONEY" IN CIRCULATION

Early in 1941, Jan. 3, to be precise, the excess reserves of member banks were roughly 6800 million dollars and at about the same time, Jan. 8, 1941, the Federal reserve banks possessed reserves over and above the minimum requirements against deposits and Federal reserve notes of more than 12,000 millions. This latter figure was sufficient to provide the minimum 35 per cent reserve against increased deposits of member banks at the reserve banks of about 34,280 millions. If we add to this latter figure the 6800 millions of existing excess reserve balances possessed by member banks we would have roughly 41,000 millions.

On the basis of such excess reserve balances an enormous amount of deposits could be provided by banks to the public. If we disregard for the moment the increasing requirements for circulating currency that would accompany any large deposit expansion, existing and potential excess reserves would support more than five times—precisely how much it would not be profitable to try to determine—their amount in new deposits. Five times 41,000 millions is 205,000 million dollars, a figure more than three times the total of member and nonmember bank deposits then outstanding.

But we cannot disregard the increase in the volume of the circulating currency that would have to accompany an increase in deposits. Although business booms are ordinarily financed in their early stages by the creation of more deposit credit, the time always arrives in a deposit expansion when more circulating currency will have to be provided. The increase in employment that accompanies the boom requires the payment of more checks

to laborers, many of whom do not keep accounts in banks and who, therefore, will withdraw currency from the banks. At the same time, businessmen require more till "money"; and the rise of prices that may take place will cause the householder to revise his opinion as to the desirable amount of currency to carry in pocket. Nonmember banks that participate in the deposit expansion and whose legal reserves consist in part of vault cash will draw on their balances with other banks to obtain additional reserves, and these correspondent banks, in turn, might be compelled to draw currency from the reserve banks.

How much additional currency will be required to go along with each increase of \$1000 in bank deposits? Many speculative factors would be involved in any attempt to make a close estimate. But we may assume for our purposes that the existing ratio of "money" in circulation to bank deposits will be maintained, or about \$1 of the former to \$7 of the latter. At this ratio an expansion of \$1000 in deposits would necessitate about \$140 more of circulating currency. To require member banks to provide \$1000 of deposits would immobilize \$200 of the excess reserves that now exist or can be provided. To obtain the \$140 of currency for general circulation would require that member bank balances be drawn down by this additional amount. For every expansion of \$1000 in deposits held by the public, then, \$200 plus \$140, or \$340, of reserve balances of member banks would disappear.

Under this calculation every expansion in member bank deposits of \$1000 and of \$140 in Federal reserve notes, or a total of \$1140 of the circulating medium, would exhaust \$340 of member bank reserves. The ratio of \$1140 to \$340 is 3.3 to 1. If we multiply 41,000 million dollars by 3.3 we obtain about 135,000 millions as the amount of increased deposits and note issues that could be extended on the basis of member bank surplus reserves plus such additional member bank reserves as the reserve banks could have manufactured out of their own excess reserves on the date indicated. Enormous as is this figure of 135 billion dollars, it is considerably less than the expansion of 205 billions that was calculated on the assumption that the growth of deposits would require no additional note issues.¹

¹ I have neglected here to make adjustment for the fact that Federal reserve notes require a larger reserve at the reserve banks. The minimum

If the average reserve ratio required against member bank deposits held by the public should be figured at less than 20 per cent, as it should at the present time, the limits of expansion would be extended further. On the other hand, a higher effective reserve ratio would restrict the degree of possible expansion.

We have assumed that deposit expansion would take place solely in member banks. This assumption would have to be modified in any attempt to determine the exact limits of expansion. Nonmember banks would share in the deposit expansion.

It is not believed worth while to make allowance for the various ways in which adjustments would have to be made on account of nonmember bank deposit expansion. It will be evident, however, that there is at least one important respect in which expansion could proceed further via nonmember bank deposits. In many states nonmember banks are permitted to count deposits with approved correspondents, most of which are member banks, as a part of their legal reserves. All this facilitates the process of pyramiding reserves. On the basis of their reserves at the reserve banks member banks extend a larger volume of deposits, a part of which deposits counts in turn as the reserve against nonmember bank deposits.

Under conditions of only a moderate future increase in the bank deposit volume it is not certain, moreover, that any increase in the existing volume of Federal reserve notes would be required. At the present time the amount of "money" in circulation exceeds necessities. Many banks are holding large supplies of cash in vault because, with the excess reserve balances already possessed, no advantage is to be gained in shipping currency to reserve banks. Undoubtedly, also, a measurable amount of bank deposits has been converted into cash by foreigners who feared the blocking of their checking accounts (and rightly so). There is the additional factor of the resentment against banks that have increased service charges. Part of the existing stock of currency in circulation is also required because of the inadequacy of depositories that has prevailed in some parts of the country since the closures of 1933.

requirement for the notes is 40 per cent in gold, as against 35 per cent in the case of deposits. To allow for this fact would require a slight reduction in the note and deposit liabilities that could be maintained by reserve bank reserves.

The importance of these special factors may wear out in time. But in the event of any large growth in deposits there is no question but that there would result an increase also in the demand for that form of currency which is circulated without the writing of checks. This fact must be taken into account in any attempt to estimate the expansibility of reserve bank reserves.

COMMENTS ON THE TREATMENT OF SOME ELEMENTS IN OUR CURRENCY

A. Federal Reserve Notes.—Federal reserve notes are the most important element in our monetary circulation. In what categories will changes in their volume be reflected? When member banks obtain Federal reserve notes from reserve banks, reserve balances possessed by member banks are reduced. Offsetting this reduction there will be a corresponding increase in the amount of "money" in circulation. A return of these notes to the reserve banks, on the other hand, reduces the amount of currency in circulation and enlarges member bank reserve balances. It would thus be a mistake to make any alteration in Treasury currency as these notes are withdrawn from circulation. The accounts are in balance without changing Treasury currency.

Federal reserve notes are thus to be regarded not as Treasury currency but as liabilities of the reserve banks. The greater are the note liabilities of the reserve banks, the less, other things equal, will be the remaining liabilities of the reserve banks.

B. National Bank Notes.—Prior to the date of their retirement in 1935¹ national bank notes might be obtained by national banks by the deposit of government bonds as security with the United States Treasury. The purchase of these bonds by a national bank would not alter the amount of bank reserves as a whole. The buying bank would lose reserves, but the reserves of the selling bank, or the depository of the nonbank seller of the bonds, would be increased. The creation of national bank notes would thus have the same effect as the issuance of Treasury currency and for our purposes might be included in this item. An increase in their volume would enlarge "money" in circulation and Treasury currency correspondingly.

¹ Concerning their retirement, see below, pp. 506-507.

In 1935 arrangements were made whereby all national bank notes that reached the Treasury after Aug. 1 would be canceled. What accounts in our balance sheet would then be affected by a dispatch of \$10,000 of these notes to the reserve banks by member institutions? "Money" in circulation would be reduced by \$10,000 and member bank reserves would be increased accordingly. As these notes are dispatched by the reserve banks to the Treasury for cancellation, the Treasury will be obliged to release \$10,000 to the reserve banks out of the funds previously deposited with it. This would reduce Treasury balances at the reserve banks by \$10,000. What offset will we have for this latter reduction? Obviously, the account "Treasury" currency will have to be reduced. National bank notes are now to be regarded as Treasury currency as the Treasury has assumed responsibility for their payment and cancellation.

C. Federal Reserve Bank Notes.—In the Federal Reserve Act of 1913 provision was made whereby the reserve banks might issue Federal reserve bank notes against the security of bonds purchased from national banks. In the Emergency Banking Act of 1933¹ provision was made whereby a special form of Federal reserve bank note might be issued by reserve banks on the security of any sound asset and without requiring a gold reserve. The issue of these notes would then increase "money" in circulation and reduce reserve balances by corresponding amounts.

After the Emergency Banking Act, arrangements were made, however, for the retirements of these notes and funds were deposited with the Treasury for this purpose. A return of these notes from circulation to the reserve banks would thus involve a reduction of "money" in circulation and an increase of reserve balances possessed by member banks in a corresponding amount. As these notes are forwarded to the Treasury for cancellation, funds are released by the Treasury to the reserve banks so as to reduce the Treasury's balance at the reserve banks. The offset to this reduction is a similar debit to the account "Treasury currency."

Federal reserve bank notes are thus now to be regarded as the equivalent of other currency for which the Treasury has assumed liability.

¹ See below, pp. 362-363.

D. Gold.—Under earlier conditions an increase in the country's gold stock would occasion no difficulties of analysis. An import of gold and its conversion into currency (gold certificates) would increase monetary gold and "money" in circulation or reserve balances by equal amounts.

As of the close of business on Jan. 31, 1934, however, the monetary gold stock was increased 2800 million dollars as a result of the increase then effected in the dollar value of gold.¹ But this transaction, in itself, had no effect on the volume of member bank reserve balances. The offset to the increase in the gold stock was an enlargement in Treasury cash.

The Gold Reserve Act of Jan. 30, 1934, vested the title to all gold in the United States in the Treasury. Gold imported as well as domestically produced thereafter would be sold to the Treasury at the price of \$35 per ounce. To pay for its purchases the Treasury could draw against its balance at the reserve banks, but these balances would be restored when the Treasury issued certificates against this gold and deposited them with the reserve banks. The effect of such purchases then would be to increase the monetary gold stock and member bank reserve balances by equal amounts.

On Dec. 31, 1936, the Treasury changed its policy in regard to the treatment of purchased gold.² Thereafter, for a time (this policy was reversed in September, 1937) the procedure was to refrain from issuing gold certificates against purchased gold. Sales of gold to the Treasury would result in the transfer of reserve balances at the reserve banks from the Treasury to member banks. To restore its depleted balance the Treasury would borrow in the market. To the extent this practice was followed gold acquisitions by the Treasury would not produce an increase in the Treasury's balances at the reserve banks paralleling the increase in the gold stock. The Treasury's "inactive" gold is thus to be disregarded in computing the country's monetary gold.

Legislation enacted in 1933 and 1934 also required gold certificates and gold coin to be surrendered to the Treasury in exchange for other forms of currency. How were the figures of "money" in circulation revised on this account? After Jan.

¹ See below, p. 375.

² See below, p. 411.

31, 1934, the Federal reserve analysts excluded from the monetary gold stock, as well as from "money" in circulation, the estimated figure of gold in circulation, 287 million dollars. Some of this coin has been exported from the country, a part of the remainder has been lost or destroyed; and the part that remains cannot lawfully be put in circulation. Gold certificates, however, were given different treatment. They probably have not been exported without official record to the same extent as gold coin; the degree of error in computing their volume cannot be as great as in the case of gold coin; and they have continued to flow back from circulation. As they come back "money" in circulation is decreased and reserve balances are enlarged. As these certificates are forwarded to the Treasury they are replaced by the new certificates which are serviceable only as reserve bank reserves.

CHAPTER XXV

PRINCIPLES OF WAR FINANCE

THE FIRST WORLD WAR AND RECENT MONETARY DISTURBANCES

Much controversy has been waged over the question of the responsibility of the First World War for recent disturbances in the realms of money and credit. Many scholars believe that it was the war alone that deranged fiscal systems, destroyed the effective working of the international gold standard, and paved the way for the price deflation of the early thirties. Other students, however, contend that such factors as the declining rate of our population growth, the lack of sensational new products and radical innovations, and reduced territorial outlets for capital investment made inevitable a slackening of the nineteenth century rate of industrial growth. These hold that recent monetary disturbances have their root in such adverse economic fundamentals. Whatever be the merits of this controversy, however, no one denies that, at least as an aggravating force, the war's responsibility was great. It is for this reason that as a background for following chapters we must say something about the principles of war finance. Failure of belligerent countries to observe sound principles may have been more important, as a disturbing influence, than the conflict itself.

Is it inherently necessary that the permanent dislocations of a war fought "all out" should be so serious? Of course it would be anticipated that the generations following the war would be poorer because of the war, poorer to the extent that some capital has been destroyed, other capital has been unproductive, and the development of human skills has been retarded. But why should it become more difficult because of such a war to utilize fully, after hostilities, such human and material resources as we inherit from the generation that fought the war? It would seem offhand as if the destruction created by the war would contribute to an intensification of man's efforts to restore production. Certainly poverty should not contribute to unemployment.

Perhaps the explanation of the paradox is that we have not learned the proper principles of financing a war. This seems an inviting proposition. Only occasionally do great peoples become involved in an all-out war; when they do they assert their purpose is to prevent future wars. Experience in proper war financing, therefore, is only sporadically gained. What has been solidly learned in one contest is put aside in the pigeon holes of the bureaucrats' desks and cannot be dusted off quickly enough when, perhaps a generation later, a new contest breaks out.

DIFFICULTY OF WAR FINANCE NOT PRIMARILY A MATTER OF INABILITY TO OBTAIN FUNDS

But what is peculiar about war finance? Principally it is that the government is obliged to spend more currency, and the effectiveness of its spending is dependent upon the extent to which civil expenditures are reduced. The ability of a war authority to combat the enemy depends not merely on the manpower of the realm, on the amount of its food resources, the vastness of its forests, and the richness of its mineral deposits. Effectiveness in war depends also upon the extent to which these human and material resources may be diverted from civil to war uses. The reduction of civil consumption in a great conflict is peculiarly difficult. Workers put in longer hours, many of them in activities that do not increase the output of civil goods, and require more nourishment. Then again employment brings wages, and expanded wages create a greater money demand for consumption goods.

In an all-out war no difficulty at all will be involved in providing the central authority with currency. Currency is the one thing that can be manufactured in abundance. Whatever rules have been imposed upon the banking system in respect to reserves, or upon the monetary system in respect to gold redeemability of the currency, may easily be abandoned. The people can be given an opportunity to lend to the government; if their resources are insufficient they may be helped out by the banks; the central bank in turn can lend readily to the ordinary banks; and if these devices prove insufficient the central banks may loan direct to the government. The old procedure of printing legal tender currency like the greenbacks is totally unnecessary. Deposit expansions, backed up by elastic note issues of the

banking system, make it unnecessary for the government to shock the people by outright dependence on greenbackism.

But do such devices as these, utilized by every participant in the First World War, contribute to the smooth transfer of outputs from civil to military use? Of course they threaten price inflation. The military authority is provided with quantities of currency to spend; but, except for the limited extent to which loans are made from the proceeds of voluntary saving, funds are not withdrawn from civilian expenditure. In the absence of rationing or other governmental restrictions on private spending, the military authority will find it necessary to bid prices up to a point that will ensure maximum supplies for military use. The lending method of war finance is essentially an inflationary policy.

INFLATION-CREATED MALADJUSTMENTS

But how effective is inflationary procedure as a means of mobilizing the country's economic resources for the conduct of the war? In many ways it is highly objectionable. The rising cost of living creates discontent among workers so that inevitably constant demands will be made that money wages be adjusted accordingly. This discontent is fanned by the fact that others, including commodity speculators and such entrepreneurs as succeed in keeping money costs down and get the advantages of economics from large-scale contracts, increase their profits. In the midst of growing want, conspicuous expenditures on luxuries are likely to increase, and these rouse further discontent.¹ Wage disputes may not get to the point of interrupting essential production but, at any rate, are almost certain to develop a state of mind antagonistic to full production. The inflationary policy further increases the difficulty the country experiences in maintaining its exports. The lower the level of costs and prices the easier it is for the country to sell.

About the effects of rising prices and costs upon the nation's exporting ability certain complications arise. To what extent, for instance, is it desirable in an all-out war that exports be maintained at high levels? The object of the country is to defeat the enemy, not to supply other nations with goods. But exports may be required to enable the country to import from other

¹ See Appendix, Chap. XXV, Note I.

nations essential materials for the prosecution of the war. Under the best of circumstances a nation involved in war finds its exporting ability impaired. Buyers fear enemy raids will interfere with prompt delivery of goods. There is a strong tendency to transfer purchases to nonbelligerent countries. On this account the maintenance of exports at the desired level may require price concessions of extreme degree—concessions, however, which it is harder for exporters to make as prices rise.

To obtain necessary materials for the prosecution of the war, imports usually have to be enlarged. Every country, even our own, is deficient in certain materials necessary for modern warfare. The United States requires tungsten and manganese and rubber, Great Britain oil, copper, timber, and food, Italy particularly coal, Germany especially iron ore, oil, and copper. Then, again, the most effective way of producing instruments of war may be to supply export materials to other countries and to exchange these commodities for war goods manufactured in outside countries. The old principle of comparative costs operates in time of war as well as in peace.

THE FINANCING OF IMPORTS BY A BELLIGERENT

The nation at war, unable to match its imports with its exports, is then obliged to adopt other devices for meeting its import bills. It may sacrifice its gold reserves; it may obtain credits abroad; it may appropriate, mobilize, and sell securities held by its nationals which have a market abroad. Failing all these means, the country may be obliged to sell its own currency. The extent to which these various devices may be effectively employed depends upon the particular circumstances that prevail. No more gold can be exported than the country possesses; the same observation holds for sales of acquired securities; foreign credits depend in large degree on confidence in the country's long-run economic prospects. Sales of currency, masked in one way or another, do not offer hopes of securing unlimited amounts of foreign materials. The greater the supply of paper currency that is created, the more serious, other things equal, is the probable degree of depreciation. There is always danger that a situation may develop in which domestic prices will rise in anticipation of fresh issues of currency and at a faster rate than new issues can be supplied.

The inflationary method of financing a war, that is, bond issues sold to banks or to borrowers from banks, thus accentuates through increasing costs the danger of diminishing exporting ability. To offset this difficulty there is the possibility of depreciating the foreign exchange value of the nation's monetary unit. If the foreign exchange value of the local currency depreciates faster than its domestic purchasing power, exporting will be rendered more profitable.

LIMITATIONS ON EXCHANGE DEPRECIATION

Various considerations have to be kept in mind, however, before adopting a policy of combatting domestic price inflation by exchange depreciation. Through numerous channels foreign exchange depreciation accelerates rising tendencies in domestic prices. In the first place, a lapse from the prewar monetary standard is the clearest possible confession of the degree of financial strain to which the country is being subjected. Uncertainties regarding the proper choice of index numbers may becloud the question of the extent of domestic currency depreciation. A monetary unit of reduced foreign exchange value, on the other hand, provides strong objective proof of depreciation. When the supply of currency is being rapidly increased it is a matter of extreme importance to avoid a rapid deterioration of confidence regarding the future purchasing power of a country's currency. Runaway inflations feed upon anticipations of continuous increases in prices.

But there are other questionable results of a deliberate policy of exchange depreciation. A decline in the foreign exchange value of the domestic unit of account may have to go far to overcome the prejudices of neutrals against contracting for exports from a belligerent whose ability to deliver on time is uncertain. Furthermore, exchange depreciation operates with more or less equal influence upon all exports. When a country is at war the need is to select between different exports; to encourage those which consume as little labor and material essential for war as possible, and to discourage those which conflict with the domestic production of war goods. Here war economy is somewhat different from that of peace. Exchange depreciation may possibly be temporarily advantageous in time of peace when there is incomplete utilization of labor and the other factors of

production. In time of war, however, when presumably there is, or should be, no unemployment, the desideratum is to encourage only those exports exchange of the proceeds of which for foreign products will be militarily more effective than the direct utilization of a country's own labor.

In time of war foreign trade policy, therefore, must be of a selective character. There is involved also the necessity of encouraging the type of exports which can be exchanged for the largest possible amount of foreign products. As students of foreign trade express this fact, every effort should be made to swing the terms of trade in favor of the country. The task is just as much that of securing the highest possible remuneration for a nation's exports as of increasing the physical quantity of exports. More may be gained by keeping up the prices (in terms of domestic currency) of goods which foreign countries especially require and for the production of which the nation at war possesses special advantages than by striving to make all the products of a nation bargains for foreign purchasers.

There is thus not the least certainty that the domestic difficulties attributable to an inflationary credit policy can be sufficiently mitigated by exchange depreciation. If all this be correct the question of proper war financing becomes largely that of avoiding price inflation. How can this best be done?

THE AVOIDANCE OF INFLATION

If nations gave as much thought to economic as to purely military preparedness in anticipation of war, certain preliminary steps would be taken. Stocks of essential commodities unavailable at home or producible only at prohibitive expense would be accumulated so as to restrict the need for their importation during hostilities. Those staples ordinarily imported from abroad which are normal objects of speculative dealing would also be accumulated in advance. Ability of the government during hostilities to offer goods rising in price out of stock may discourage speculation for the rise and make hoarding unprofitable. On the financial side a constant objective during years of peace would be to maintain the country's credit so that foreign loans can be negotiated at low interest rates. In military circles a resources census would be available so that the task of diverting labor and materials to war operations would involve the minimum

of disturbance. However much may be done by such preliminary economic planning, it is essential nevertheless that the most effective machinery be set up, on the outbreak of hostilities, to obviate inflationary tendencies. We shall assume that the nation in which we are interested has previously relied principally upon profit and price adjustments, instead of upon the personal direction of the leaders of the state, to determine the allocation of its economic resources. If so, the question at issue in time of war will be whether to adopt a system of finance that will operate within the framework of enterprise economics or whether there should be a complete *volte face* toward state direction. One or the other of the above must be chosen, or some combination thereof. But believers in political democracy will not view unnecessary economic authority with complacency.

To depend upon financial controls to the utmost extent to avoid price inflation, borrowings by the government, particularly from the banking system, must give way to severe taxation. Taxation deprives income recipients of money income and restricts private spending. Unlike the bond, a tax receipt cannot be used as collateral for a bank loan. Unlike borrowing, taxation is essentially a compulsory transfer of spending power from income recipients to the government, and not the outright manufacture of new bank deposits or circulating currency. The reduction in private spending, under a policy of ruthless taxation, would be accomplished directly instead of by the more disturbing policy of permitting prices to rise.

TAXATION MAKES THE BURDEN CLEAR

The very merits of heavy taxation, however, constitute one of its most serious defects. Under the taxation method it is perfectly clear to everybody what is the real burden of prosecuting the war. Under the inflationary bond method, on the other hand, the purchasing power of money incomes rather than the incomes themselves may be impaired. People are accustomed to think in terms of money wealth and of money incomes, instead of in terms of the purchasing power of their incomes. It is sometimes contended that to conceal the burden of the conflict makes it easier to undertake the ambitious plans successful prosecution of the war requires. But this argument has numerous ramifications. To gloss over the burden may lessen support

for the carrying out of the desired preliminaries referred to above. Furthermore, no deterrent to war effort is so great as the realization it is bringing profit to those few who fatten, instead of suffer, on rising prices.

The concealment of the burden, however, is generally justified or rationalized by the sophisticated argument that the borrowing method helps to spread the financial burden of the war over future generations. Save in special circumstances, however, there is no way of deferring the cost. It is true that by borrowing from abroad the present burden may be lightened. Future taxpayers will then be obligated to surrender to foreign creditors a larger portion of the products of their toil. But if the borrowing is from one's own people, as the larger part of a great power's war debt usually is, it becomes difficult to see how the burden is pushed on to the future. It is true that interest and principal payments have to be made to bondholders and such payments reduce taxpayers' net incomes. But these same payments also fatten the incomes of bondholders. And to an equivalent degree. The income offsets the outgo.

If, instead of thinking in terms of "money," the problem should be stated in terms of goods and services, or what the currency will buy, there would be little confusion as to the reality of the whole burden to the generation that fought the war. In terms of goods, the cost of war is the inability of a people to employ the products of its labor for the satisfaction of ordinary wants. Powder and steel shot away do not enhance, but rather detract from, ability to clothe, feed, and enjoy ourselves. Timber in army barracks is not available for civil dwellings. Battleships do not transport peacetime goods. The people that produce these goods and cannot use them for personal enjoyment are the only ones who bear the burden of the war. Of course, future generations will be worse off if they are less adequately provided with capital than otherwise they would have been. But this is only to say that they have inherited less from preceding generations.

Is it possible, however, to begin hostility preparations with sole reliance upon taxation? From the point of view of fiscal technique such procedure is well-nigh impossible. Overnight tremendous new expenditures are imposed upon the government, and no great nation has ever entered into a serious conflict with its fiscal system adapted to the necessity of supplying these funds

immediately by taxation. Some nations have been greatly handicapped, moreover, by long-standing prejudice, as in France, against reliance on the highly elastic taxes (sharply graded income and excess profits taxes). No matter how strong the resolve to utilize the tax weapon, some preliminary borrowing is practically unavoidable.

An anti-inflationary program, however, would require that every effort be made to obtain such loans as are made from the existing volume of deposits and currency. Stated in reverse terms, borrowings from banks which discount with the central bank, and from individuals who borrow from banks, would be minimized. If these principles are not observed the country begins hostilities with an expanding currency and bank credit volume, which factor, combined possibly with a disposition of commodity speculators to buy for the rise, or of householders to stock up with food, initiates immediate price increases and produces an inflationary sentiment. To keep such inflationary tendencies in check while the permanent tax program is being devised may require immediate resort to government price-fixing, to food rationing, to allocation of transportation space to war goods, and to a whole host of authoritative interferences.

Such interferences and controls may be effective if currency expansion is kept in check. If it is not these governmental controls over the use of economic resources will have to be expanded and multiplied. This is the reason why war is such a serious enemy of free private enterprise.

POSTWAR RECONSTRUCTION

The main consideration in an all-out war is of course to produce a military victory. The above analysis leads to the conclusion that a successful consummation of hostilities is encouraged rather than impeded by the adoption of a noninflationary program. But, still, thought should be directed to the after-war situation. Which course makes it easier, after hostilities, to transfer soldiers to civil employment and to regain markets that have been lost?

The weight of experience and economic analysis is again on the side of the anti-inflationary (as well as anti-exchange depreciation) program. To encourage demobilization after the war private industry may well require the stimulating influence of cheap credit and some depreciation of the domestic monetary

unit in the foreign exchange markets. Both of these accomplishments are easier to effect if, during the war, the domestic price structure has been dislocated as little as possible and if wartime foreign exchange depreciation has been minimized. Price advances occurring after a wide upheaval increase labor disturbances and social unrest, and render difficult entrepreneurial calculations. If everybody is looking for a quick return to pre-war prices, a mild inflationary tonic may well prove ineffective. In the field of exchange depreciation the further reduction of the value of the domestic monetary unit is likely to increase foreign retaliation by way of tariffs, quotas, import restrictions, and defensive currency depreciations. People abroad will not believe that an exchange depreciation is justified by the rise of internal prices. They place great stock on the old rates of exchange. Even if they do not engage in retaliation they lose confidence in the foreign currency unit and begin to speculate on its decline. The monetary unit of the country that has been at war may thus begin a downward whirl, destroying measurably ability to restock with essential reconstruction materials.

CONTROL OF CONSUMPTION

Mention was made previously of the tendency of consumption to increase during war, particularly if the belligerent was not operating before hostilities at a level of complete labor employment. Those previously out of work consume more as they receive regular employment, and those at work labor harder and think they require more nourishment. Income taxes imposed on the wealthier classes will not discourage their consumption greatly. The volume of consumption, moreover, is determined principally by that of the greater number of less well-to-do. To enforce economy in the nonmilitary use of goods various consumption taxes will be desirable.

Such taxes, however, bear with unusual harshness upon those whose incomes do not advance above the lowest levels. Consumption taxes, furthermore, lead to frequent demands of labor that wage rates be lifted. To start such a wage-lifting process early is of course to accelerate the danger of a final and serious price upheaval. The brilliant Mr. J. M. Keynes has accordingly suggested that wage rates should be lifted but that a portion of pay envelopes should consist of currently nonspendable savings deposits. Labor might thus be mollified and be made more

aware of the necessity of restricting consumption. After the war the use of these deposits in consumption channels would help to stimulate industrial remobilization.

Theoretically at least there is much to be said for this proposal. The supporting argument makes it clear that there are difficulties in the way of restricting consumption by taxation in the ranks of low income recipients. Keynes's plan is designed to offset this difficulty. It is also intended to minimize the need for arbitrary governmental controls, rationing, establishing shipping priorities, and the like. The plan thus recognizes the essential requirement of a sound program of war finance, reduced private spending as state spending increases.

How sound were the fiscal and monetary programs of belligerents during the first World War? Since England was in the war before the United States and bore a considerable portion of the financial burden of its allies, its policy during that war will be discussed in the next chapter.

REFERENCES

In the opinion of the writer, Professor H. J. Davenport saw more clearly than other economists the merits of taxes, as contrasted with bonds, in the financing of the first World War. See for instance:

H. J. DAVENPORT, "The War-Tax Paradox," *American Economic Review*, March, 1919, pp. 34-46.

Another attack on war bond issues is provided by:

SIMON N. PATTEN, "Mandeville in the Twentieth Century," *American Economic Review*, March, 1918, pp. 88-98.

See further O. M. W. SPRAGUE, "Loans and Taxes in War Finance," *American Economic Review* supplement, March, 1917, pp. 199-213.

An explanation of the ability of this country's banking system to absorb enormous quantities of war bonds is found in:

H. L. REED, "Credit Expansion under the Federal Reserve," *American Economic Review*, June, 1918, pp. 270-282.

For an analysis of the relationship of exchange depreciation to war mobilization, with reference to the present war, see:

GRENVILLE HOLDEN, "Rationing and Exchange Control in British War Finance," *Quarterly Journal of Economics*, February, 1940, pp. 171-200.

The compulsory savings plan is presented in:

J. M. KEYNES, "The Income and Fiscal Potential of Great Britain," *Economic Journal*, December, 1939, pp. 626-639.

CHAPTER XXVI

ENGLISH MONETARY POLICY FROM THE FIRST WORLD WAR UNTIL THE CLOSE OF 1924

RESOLUTION TO MAINTAIN THE OUTWARD FORM OF THE GOLD STANDARD

In previous chapters two canons of successful war finance were set forth. The first was that revenues should be obtained in such a manner as to disturb the internal price system as little as possible. The second was that foreign exchange policy should be determined in reference to its bearing on the stimulation of exports, the cost of imports, and the terms of trade. We may next inquire as to the extent to which these principles were observed by the monetary and fiscal authorities of England during the first World War.

So far as foreign exchange policy is concerned, little intricate analysis was then provided of the type now so common in professional circles regarding the effects of a depreciating currency on the country's war potential. Prospects of a deviation of the British pound from its former internal gold value or from its mint parities with other gold currencies were regarded with dismay. With the authorities resolved to maintain at least the appearances of the gold standard, if not its realities, fiscal policies were assayed from the standpoint of their effects on the value of the pound. Taxation and sales of war issues to savers were preferred to inflationary borrowings not so much because of fiscal, as on account of monetary, considerations. Had it not been for the accepted dictum that the pound's gold value must be preserved there probably would have been even less reliance upon taxation.

MEASURES EMPLOYED TO ACCOMPLISH THE BASIC OBJECTIVE

What policies were relied upon to maintain the appearance of the gold standard as the war settled down to hitherto unexampled

economic attrition? During the course of hostilities, and for that matter until 1925, the right of a holder of a note of the Bank of England to redemption in gold remained unchallenged. Appeals were constant, however, that the public refrain from demanding gold for other currency. It was officially, as well as unofficially, asserted that such demands were unpatriotic. Along with such appeals there were others enlisting the cooperation of the public in turning in gold sovereigns and in using paper currency instead. In these ways the seepage of gold into circulation was restrained almost as effectively as if there had been prohibitory legislation.

But the banking system's cash position might weaken as a result of enlarged deposits and note issues even though there was little seepage of gold into internal circulation. Several measures were undertaken to combat this tendency. Very early in the war the government put out an issue of "currency notes," and this issue made it less necessary for the Bank of England to ask Parliament for permission to expand its own note issues.¹ It was not that such currency notes would be any less a burden on the country's gold than the Bank of England's issues. But public apprehension was directed rather more to the Bank of England as the basic support of the English deposit credit system, and the Bank of England itself lacked the resources of the government in such matters as ability to tax. It was regarded as good tactics to put a part of the currency burden on the government, and remove it from the bank.

Empire policy was further directed to the preservation and effective utilization of gold. The danger that the gold production of South Africa and Australia might disappear in the hoards of India was combatted by a series of measures so that by the beginning of 1919 (the financing of war bills had by no means been completed at the time of the Armistice) there was no way by which gold could reach the Indian public. All gold that was imported into India was purchased by the Indian government and served to build up the country's gold reserves.² In the case of South Africa, as well as Australia, effective measures were taken to

¹ Except with the permission of Parliament, the Bank of England could not increase its notes uncovered by coin or bullion to an amount then approximating £19,500,000.

² See William A. Brown, Jr., *England and the New Gold Standard*, p. 21.

route the annual production to London,¹ even though higher prices might be obtainable in other markets.

By these devices the cash and gold ratios of the English banking system were reasonably well maintained. Since, furthermore, London was acquiring gold from the areas of production without increasing its sterling price (purchases by the Bank of England) and since coinage provisions were unaltered, there was little apparent change in the internal mechanism of England's gold standard.

CONTROL OF THE OUTWARD GOLD MOVEMENT

But what about the dangers of a terrific gold drain to countries other than India and from which England's imports had so greatly expanded? Private exports of gold to these countries were practically estopped. It was known that the Bank of England and the other monetary authorities frowned on the export of gold merely for the sake of realizing exchange profits. Finally, on May 10, 1917, the export of gold was prohibited by proclamation under authority of the Customs and Inland Revenue Act of 1917.²

The prohibition of the private export of gold might be expected to result in a depreciation of the foreign exchange value of the pound. Early in 1916, however, the sterling dollar rate had been pegged at about \$4.76. At this rate the pound was somewhat below its prewar dollar parity. But it must be remembered that the cost of shipping gold had risen, largely on account of increased marine insurance rates. In view of this increased export cost it could still be maintained that the pound was within the old dollar parity range.

EXCHANGE RATE PEGGING

What was required to peg the pound at \$4.76? Technically the operation required a New York agent, J. P. Morgan & Co., to agree to purchase all sterling bills tendered at this rate. How were the New York agents to be provided with the necessary funds for such operations? The British authorities depended on gold shipments (the importance of which was largely responsible for the gold policies previously mentioned), on the mobilization in government hands of privately held securities possessing an

¹ See Brown, pp. 23-24.

² See Brown, p. 7.

American market, and on borrowings. At first credits were obtained in America from private banking firms, as Brown Brothers, Harriman and Company. After our own participation in the war the extension of credit was a Treasury operation.

The above measures were dictated by the urge to deny any depreciation in the pound's gold value. Was it good policy to maintain the fiction that the pound was still synonymous with so much gold? The writer is of the opinion it was. Inflation is largely a psychological matter. Prices rise wildly when confidence in a currency has been lost. The keynote to the maintenance of confidence was preservation of the gold value of the British pound. It was worth much for the monetary authorities to be able to proclaim that bank notes were still convertible into gold and that abroad the pound exchanged for the dollar within the range of gold shipping points about the old par. In the matter of the dollar exchange it is difficult, moreover, to see where exchange depreciation would have helped the nation mobilize for war. General encouragement to exporters might have dissipated, instead of strengthened, resources and energies required for war. While the maximum discouragement of nonessential imports was indicated as necessary, there were other devices than cheapening the pound in the foreign exchanges that could be effectively employed, such as the licensing of shipping space. So far as necessary imports were concerned, a low pound would have increased the cost of fighting the war.

THE FICTITIOUS POUND CREATES POSTWAR DIFFICULTIES

The policy of maintaining the pound at a higher exchange level in terms of the strong currencies, the dollar, the peseta, the yen, and the guilder, than its internal purchasing power justified would operate in several ways, however, to increase the difficulties of postwar reconstruction. The fiction could not forever be maintained that the pound's gold value was unchanged. In time of peace it is difficult to induce people to forego their legal right (to convert notes into gold). Banking controls like higher discount rates may, therefore, have to be applied to restrict gold exports¹ at the very moment when the necessities of restoring

¹ This assumes the wartime prohibition of gold exports has been abandoned. To maintain the prohibition in time of peace would go far in the direction of admitting abandonment of the gold standard.

civilian employment call for cheap credit. Difficulties should also be expected after the war in keeping gold out of India and in compelling the flow of Australia's and South Africa's gold to London. Particularly great would be such difficulties if costs of living should rise measurably in the gold producing countries.

If, on the other hand, the fiction of the equivalence of the pound and its former gold content should be abandoned after peace, so that South African gold could be sold for dollars or increased amounts of sterling, if bank notes were made convertible in a lesser amount of gold, and if exchange controls were removed, further difficulties would have been encountered. To put the currency at once on an inconvertible paper basis would very likely destroy confidence in the currency so completely that any sort of a liberal domestic credit policy would be out of the question. On the other hand, to fix an immediate lower gold conversion value for the British pound would present a host of objections. No one knew exactly what lower gold value would be correct. Too low a value would result in the undue sacrifice of British properties (securities, particularly) to foreign purchasers. An undervalued monetary unit would mean disadvantageous terms of trade to a war-racked country. A high and definite gold conversion value for the pound, on the other hand, might be impossible to sustain, and an enforced retreat from such a level might easily generate the pessimism from which super-inflation develops.

INADEQUACY OF INDEX NUMBERS AS A MEANS OF DETERMINING PURCHASING POWER PARITIES

But why could not index numbers of commodity prices be employed after the cessation of hostilities to determine the proper gold value for the pound in relation to Swedish, Swiss, Argentine, Japanese, and American currencies? The principle here suggested would be that the relative gold values of the different currencies should correspond reasonably well with their relative purchasing powers. Several difficulties, however, lay in the way of basing England's monetary policy upon such procedure. The first is the impossibility of obtaining adequate index numbers for the purpose. Certain types of commodities, that as a matter of fact loom large in some of the better known indexes, are always in

close adjustment with whatever exchange rates exist. If easily graded and inexpensively transported commodities, at the existing level of exchange rates, are cheaper in a country than elsewhere, they will be bought in that country by speculators and arbitragers until price discrepancies are fairly well removed. A discrepancy between the internal and external value of a currency would show up principally in commodities that do not enter so easily into international trade. But price indexes composed of such commodities, heterogeneous and local as they largely are, cannot be developed with the accuracy that is required. It is very difficult, for instance, to compare international wage levels. Too much uncertainty exists whether similar qualities of labor enter into the different indexes.

But there would be other difficulties in the way of reliance upon the purchasing power parity principle. Exchange stability at such a level might also be difficult to maintain because of the necessity after the war that different countries pursue diverse currency and credit policies. It was reasonable to assume that Great Britain's ability to export had been impaired during the war in comparison with that of the United States, Japan, and the relatively unscathed neutrals. England, also, had suffered greatly through the terms of peace. The requirements of the treaty of Versailles that Germany must meet part of its reparations by deliveries in kind must operate severely against the British shipbuilding and coal export industry. Japanese competition in textile manufacturing must also be felt more keenly in India and China.

Finally, balances of merchandise movements do not constitute the whole of transactions involving the international movement of funds. Adequate account must be taken of gold movements, and it was uncertain after the armistice whether the subordination of Indian, Australian, and South African demands to empire requirements could be continued. Long-term capital movements as they were conducted before the war, moreover, might never be restored. Relative differences in short-term interest rates might persist and be included in the factors producing gold movements.¹

The permanent fixation of the proper gold value for the pound, even though such a policy might develop out of index-number

¹ Because of a relative shortage of real capital and the possibility that banking policy would be adjusted to this condition.

comparisons, involved further dangers. Suppose that exchange rates were fixed at levels that should prove too low (for the pound). A sudden increase thereafter in the foreign exchange value of the pound would tend to bear harshly on the export industries, and on employment in these industries. The facts were that, at the close of hostilities, the monetary authorities of Great Britain had no means of determining the correct exchange, or gold, value for the pound. The greater the degree of concealed depreciation that had developed during the war, the more serious these difficulties would prove to be.

All this seems to argue against the policy of maintaining the facade of the gold standard during the war. But the alternative course might well have been worse, and in any event the war had to be won regardless of what the future might bring.

REMOVAL OF WARTIME CONTROLS

Under these circumstances the immediate postwar monetary policy of the English government, after a period of delay and mental confusion, was: first, to announce allegiance, as a permanent principle, to the old gold value of the pound; and, thence, to remove one by one the various wartime controls to see if this policy could succeed. The dominant thought of the government was undoubtedly expressed in the Report of the Cunliffe Committee on Dec. 3, 1919.¹ This report was not so much the result of intricate analysis of the difficult problems involved as a statement of opinion that deliberate acceptance of the depreciation of the pound would be morally wrong. The British paper pound was a promise to deliver a certain weight of gold, and this promise must, if possible, be upheld. No other course, moreover, so it was thought, would reestablish the prestige of London in international finance. But, to ensure gold convertibility, inflationary credit measures would have to be eschewed. The committee recommended that borrowings from the Bank of England be confined to purely temporary necessities (be made in anticipation of near-term tax revenue); that the actual maximum fiduciary (uncovered by coin or bullion) note issue of any one year be fixed as the legal maximum for the next year; and that the practice be continued of placing Bank of England notes in

¹ For text of the final report, see *Federal Reserve Bulletin*, February, 1920, pp. 142-143.

the reserve against currency notes. The report of the committee was in general of a deflationary import. In the meanwhile the program of removing wartime controls was gradually being effected. After Jan. 2, 1919, it was no longer required that British nationals secure a permit from the American Dollar Securities Committee to dispose of their holdings abroad.¹ On Mar. 21, 1919, it was announced that the control of exchange rates was at an end. By gradual steps it had come about that by June, 1920, most of the restrictions had been removed which had impeded the free movement of gold between South Africa, India, and the United States.² Almost all of the machinery of the prewar gold standard was now in force except the ability of holders of English paper currency to convert into gold.

With exchange controls removed, how easy did it prove to be for England to reestablish the pound at its former gold (dollar) value? Four or five years of severe disturbances and uncertainties, particularly in the exchange market, had to be endured. In February, 1920, the dollar-pound rate had fallen below \$3.20. After a recovery in ensuing months to about \$4.00 by March, 1921, another dip carried the pound below \$3.60 in July, 1921. In March, 1923, the pound had ascended to about \$4.70, only to fall again below \$4.25 in January, 1924. From then on the trend, with decided short-time sweeps, was upward until the prewar dollar rate was realized in April, 1925.

During this period of exchange rate fluctuation, what was the general direction of world gold movements? Since Canada, Australia, and South Africa³ were in 1920 responsible for two-thirds of the world's gold production, this question is largely one of the destination of newly mined empire gold. On June 9, 1919, the embargo on the export of gold from the United States was withdrawn. Thereafter for several months this country's losses of gold through exports principally to Japan, China, and the Argentine were heavy, totaling 272 million dollars between June, 1919, and April, 1920. Thereafter the ability of the United States to attract newly mined gold, principally, was generally demonstrated until the summer of 1927. From the close of 1919 to the end of 1924 the gold holdings of the United States

¹ See Brown, p. 47.

² See Brown, p. 42.

³ Including Rhodesia, Transvaal, Cape Colony, and Natal.

Treasury and of the federal reserve banks increased from 2.9 to 4.4 billion dollars.

IMPEDIMENTS TO PRICE INFLATION IN THE UNITED STATES

In this period of readjustment, 1919 to 1925, the reader's general interest will probably be directed to two questions. The first would be that of explaining the swings in the dollar-pound exchange rate. The second would be that of the failure of the gold imports of the United States to produce a quicker adjustment of the dollar-sterling exchange rate to prewar levels than in fact did occur.

Neither of the above questions can be answered fully here. Both must be left principally to monographic treatments. In respect to the first question, however, attention may be drawn to the following factors: relationship of exchange rates to purchasing power parities; the confidence that prevailed in the ability of the British monetary authorities to achieve the prewar rate; gold production conditions in South Africa and Australia, particularly; the technical state of the speculative exchange markets; success of England in securing foreign credits; consummation of the most urgent part of the work of restoring the industry of war-ravaged districts. In respect to the second question, even more difficult factors would have to be analyzed in a complete statement.

Why, to repeat, did not extensive gold shipments to America push up price levels here to a point at which a \$4.86 rate of exchange would have corresponded with the relative purchasing powers of the pound and the dollar? The failure of gold exports to America to operate more powerfully upon our price levels must be attributed in part to the following factors, some of which operated in this period with unique force:

1. Gold shipments to the United States in 1920-1921 operated principally to reduce the discount indebtedness of member banks to the reserve institutions and only to a minor extent to increase member bank excess reserves. As a consequence of our methods of war finance, involving as they did heavy borrowings by the Treasury from the banking system, member bank indebtedness to the Federal reserve banks reached a peak of \$2,800,000,000 in October, 1920. With the spread of the doctrine that banks should not be permanent users of reserve credit it was inevitable

that banks would employ their gold imports to discharge their discount indebtedness. The gold would be consigned to the Treasury in exchange for a draft to be deposited with the reserve bank for the credit of the member bank. The deposits established at this particular bank would be utilized by the holder in buying operations so that the surplus reserve (if any) of the gold-importing bank would be transferred to other banks through the clearance process. The Treasury could make good its draft, of course, by issuing certificates against the gold and depositing them at the reserve banks.

Gold imports thus tended to increase the gold ratios of the reserve banks to a much greater extent than the reserve balances of member banks. On the basis of their surplus reserves the reserve banks might have engaged in open market purchases for the purpose of increasing member bank reserves. But this increase in open market purchases would operate principally to reduce member banks' discount debt to the reserve banks instead of increasing member bank reserve balances.

2. Progress of member banks in discharging their discount indebtedness was rapid after the fall of 1920, and conditions were speedily developing in which further gold imports might have been expected to produce their full effects in expanding member bank reserves and possibly, therefore, member bank deposits. In the meanwhile, however, concepts of Federal reserve policy were developing which lessened the likelihood that increased gold reserves of the reserve bank would be employed to the utmost extent possible. For one thing, it was not certain that it was prudent for the reserve banks to operate on a reserve ratio close to the minima set by the statute (35 per cent for deposits and 40 per cent for Federal reserve notes). In the spring of 1920 the surplus reserves of the reserve banks had largely diminished as a consequence of the gold exports that took place after the country's gold embargo lapsed. Since this erasure of surplus reserves was presented as a justification of measures of credit restraint, whose wisdom was seriously challenged by believers of the Deflation Conspiracy of 1920,¹ pressure was put upon the

¹ Under the pressure of increasing speculation, rising prices, and diminishing gold reserves, the reserve banks increased their discount rates rapidly in the early part of 1920. At the New York reserve bank a 7 per cent rate was reached. When farm prices subsequently tumbled many unsophisti-

reserve authorities to build up substantial surplus reserves for future emergencies.

3. In 1923 the reserve authorities subscribed¹ to the theory that credit expansion could be justified under the terms of the Federal Reserve Act, as also under the dictates of sound economic analysis, only when credit expansion seemed, in the light of statistical analysis, to be contributing to a somewhat similar increase in the physical volume of trade and production. In the latter part of 1922 evidence indicated that much credit was tending to be speculatively, instead of productively, employed. The Federal reserve banks then undertook measures of restraint² which were followed in the spring of 1923 by discount rate increases at three reserve banks, one of which was the New York bank, at a time when there was little question as to the adequacy of the reserve ratios of the reserve banks.³

The point made in this section may be restated. At certain times gold imports may be received, enlarging reserve ratios, when business is not capable of employing an increased credit volume soundly or when the Federal reserve authorities, rightly or unrightly, believe an expansion of Federal reserve credit would be undesirable.

4. Increased gold holdings of the reserve banks may have other effects than to enlarge member bank reserves or to reduce member bank discount indebtedness. In such a year as 1923 the requirements of the public for circulating currency, as distinguished from deposits, were considerably larger than in earlier years.⁴ Member banks met this demand by drawing on their reserve balances, thus offsetting in part the extent to which gold imports operated to increase member bank balances.

As another complication, there were years in which for technical reasons the reserve banks regarded it as wise policy to

cated politicians and farm representatives argued that the reserve banks and Wall Street had deliberately conspired to deflate prices. Such charges contained about as much truth as Mr. Bryan's 1896 assertion that the creditor classes had cornered the country's gold.

¹ See *Report of the Federal Reserve Board*, 1923, pp. 29-39.

² Sales of government securities, principally.

³ For a discussion of the 1921-1923 period see Harold L. Reed, *Federal Reserve Policy 1921-1930*, Chap. I.

⁴ In a period of reviving employment, pay rolls increase and the amount of "money" in circulation tends to increase.

meet member banks' currency requirements by paying out gold certificates instead of Federal Reserve notes.¹ Under such policy, gold imports might not produce visible results in the direction of expanding reserve ratios of reserve banks.

Further facts of this nature might be adduced, but enough has been said to indicate that the effects of gold inflows depend on a variety of considerations which may modify their normal influence. In 1919 to 1924 many of them operated in such a way that processes of an inflationary character were hindered in this country. This is only another way of saying that to return to a \$4.86 pound more deflation was required in Great Britain than interpreters of Ricardo's doctrine anticipated. English monetary thought at this juncture did not display the keenest insight into the effect of the special circumstances that prevailed.

However this may be, a large part of the pains of English economic readjustment had been borne by the close of 1924. Although it will be argued in the next chapter that these obstacles were not as completely cleared as was officially believed, the pound seemed to be within easy reach of its old dollar parity. At the end of 1924 sterling was above \$4.70. At such a level a decision would shortly be expected of fundamental significance in respect to future policy. At this time, furthermore, it would be expected that analysis would stress more highly significant processes than it was reasonable to demand immediately after the war. Arbitrary and complicating controls had one by one been removed, and the role of psychological reactions to departures from tradition had become less significant.

¹ In order to lessen the reserves of the reserve banks and weaken the pressure for inflationary action through reserve bank action.

CHAPTER XXVII

THE ENGLISH RETURN TO GOLD IN 1925 AND ITS IMMEDIATE MONETARY CONSEQUENCES

ALTERNATIVE POLICIES AT THE CLOSE OF 1924

By the end of 1924 the British pound was close to its old gold parity, and the time was approaching when a definite decision must be made in reference to a permanent monetary policy. Not much longer would it be possible to advocate further drifting as a prerequisite to final decision. The continued heavy unemployment and depression in key industries, furthermore, served to dampen the sentiment that the question involved "moral" issues. It was now more generally conceived that the problem was how to procure the greatest benefit for the current English economy, and not merely a question of honoring a former obligation to redeem bank notes in a given weight of gold.

The alternative policies that received the most support at the close of 1924 were the following:¹ First, reestablish the gold convertibility of English currency at a level that would provide a \$4.86 par of exchange with the dollar. Second, devalue definitively and finally to a level of perhaps \$4.50. Third, cease to work for stable exchanges with gold countries but adopt an internal credit policy that would be calculated to serve domestic requirements best even though the foreign exchanges should fluctuate. These alternatives have been put down, perhaps, in the order of their ascending radicalism.

THE CASE FOR THE RETURN TO THE OLD PARITY

What was the affirmative case for the first policy, reestablishment of a \$4.86 pound? If we waive the question of the positive disadvantages of any other policy, the principal point was the prestige that would attach to the pound and to English finance if

¹ A rather detailed summary of financial opinion in England at this juncture is to be found in Charles E. Galbreath, *Sterling Area: Its Development and Operation*.

the pound's former gold value could be reestablished. Throughout the world the tremendous financial strain that England had been required to bear was thoroughly understood. England was a belligerent more than twice as long as the United States and to it fell a large part of the task of equipping its allies. Time and again exhausted Russian armies were refurnished at Anglo-French expense. But the success of Germany in occupying at the very beginning of hostilities the richest part of France's manufacturing area increased the strain upon English manufacturing and upon the English monetary system. Strains of this degree do not occur every day. If the pound could be returned to its old dollar par in spite of all this burden, requiring as it did a large measure of wartime inflation and, after the war, continuing the dislocation of its industry, London would gain, instead of lose, prestige as the center of world finance.

But what good would all this do? Specifically, London might reacquire lost business, and fees and commissions of hundreds of millions of dollars annually might be added to English income revenues. It has been pointed out that the demand for the services of London acceptance and discount houses was to be attributed in no small measure to the gold reputation of the British pound.¹ But, most important of all, world trade, in the fullness of which English prosperity had bloomed in the nineteenth century era of progress, could again be financed on time-honored principles. London once more would be the book-keeping center for the balancing of international accounts. London had the available facilities, its bankers knew foreign credits, and it was decidedly doubtful if New York could operate satisfactorily in its place. In the United States industrial development had proceeded under a policy of protection to home industries and with constantly rising tariffs. The country could not be expected to readjust its policies speedily in a way that would recognize its new position as a creditor nation. Even though New York should strive to assume the responsibilities of a world financial center, it was unlikely to display the skill in providing international credits that through the centuries had been developed in London.

In the minds of the more penetrating analysts it was clear that the nineteenth century gold standard, with its accompanying

¹ See above, p. 75.

characteristics of exchange stability and a widened geographical division of labor, had depended even more on the facilities provided in London for the balancing of accounts that had been converted into English currency than on the development of currencies throughout the world of fixed gold value. Both factors, of course, were important. But the system of converting short-term international claims into sterling credits, with these credits liquefiable out of final payments, eased the strain on other nations' gold reserves and made the gold standard universally workable. Without the assurance that earlier procedures could be reestablished English trade could scarcely be expected to revive. Economic provincialism was not compatible with English trading prosperity. Further to be remembered was the fact that the return of the pound to its former gold value would bring other currencies more or less automatically into the gold standard orbit and serve to eliminate the confusions in world trade created by fluctuating exchange rates. Sterling exchange countries like India would again become gold standard countries, as well might other countries, some of which came into being in the war, as Esthonia, Latvia, and Finland.

THE CASE FOR STABILIZATION AT A LOWER GOLD VALUE

All of the above argument, however, does not distill into proof that the pound should then have been stabilized at its old gold value. Perhaps the cost of lifting the pound further would be too heavy a burden for the already straitened British economy to bear. If so, it might be wiser to secure the advantages of exchange stability, but with the pound at a lower level. To stabilize, in relation to the dollar, at say \$4.50 would not produce as great prestige for London as success in stabilizing at \$4.86. But a \$4.50 pound would be easier to maintain, and the danger of a future lapse from gold would be that much less. It might be questioned, furthermore, whether London would actually lose much prestige by stabilizing at the lower figure. Great wars do not occur every day; the exceptional financial strain on England was everywhere recognized, all the more because Austrian, Polish, German, Soviet currencies had completely lost value, and French, Italian, and Belgian currencies had depreciated so greatly as to preclude prospects of stabilization at more than a fraction of their pre-war values.

What would be the chance of holding the pound to the \$4.86 level? It was generally agreed by the experts that even at \$4.50 the pound would be overvalued on the basis of purchasing power parities.¹ But since 1920 the pound had come up all the way from a figure only slightly in excess of \$3, and it was argued by proponents of a \$4.86 pound that by far the greater part of the necessary readjustments had already been borne. It was contended further that the technical condition of the American banking structure was such that exports of gold to America would operate more powerfully than previously to produce some price inflation in the United States. By the fall of 1924 the average American member bank was completely out of debt to its reserve bank. Then again the American banking authorities, under the influence of Benjamin Strong, governor of the New York Reserve Bank, had made it clear, by action as well as by word, that they realized the advantages to the American export trade of reestablishing exchange stability. The American authorities had also made it known that they would cooperate with Great Britain in striving to make the return of the pound to a \$4.86 par successful. Our exporters, particularly those of agricultural products, were demanding a higher pound and higher dollar prices. By the time England was ready for final decision American credits might be expected to support the pound, and an American credit policy could be counted on that would depress interest rates in New York and restrict the flow of fluid banking capital from London to New York.

All of the above assertions, however, involved elements of doubt. Did the increase of the pound exchange to \$4.70 at the close of 1924 indicate accurately the adjustments that had been made in the internal price structure? It has been pointed out that most authorities agreed that commodity price indexes showed the pound to be overvalued even at \$4.50. If this opinion was correct the pound would be far too high at \$4.86. It has also been remarked that many of the most important items in the price indexes that were employed tend to adjust themselves to whatever exchange rate prevails. If it had been possible to construct technically just as good index numbers of wages, retail prices, and prices of goods expensive to transport, the overvaluation of the pound at a \$4.50 rate would undoubtedly have been

¹ See Brown, pp. 219-220.

shown to be considerable. Unemployment conditions in the country were already so serious that further reductions in the pound revenues of English exporters might produce unbearable hardship. To reduce export revenues must create additional unemployment, unless of course labor were willing to accept lower wages. But strongly organized English labor was then in no mood to accept further wage deflation.

A good many English manufacturers and exporters felt, however, that the handicaps of a higher pound to the export trade might be largely overcome by the further spread of "rationalism." After the first World War English manufacturing probably fell further behind American competitors in technical improvements and organization. No one denied that English industry stood to gain much by copying American methods of mass production more thoroughly. On the other hand, however, it could not be guaranteed that foreign competitors would not profit even more from invention and improved organization. Perhaps, also, the spread of manufacturing throughout the world and its extension in raw material areas was destined to proceed even further. To subject the English exporter to additional handicaps resulting from an overvalued pound would be the height of optimism. The policy could be justified only on the assumption that the further routing of the world's gold output to America would operate powerfully upon American prices.

THE CASE FOR A DRIFTING POUND

What, however, were the merits of the third policy, advocated by J. M. Keynes,¹ that resolution to maintain stable exchange rates be abandoned in favor of a policy of stabilizing internal prices? Mr. Keynes argued strenuously that it was essential for the country to be in a position to undertake whatever credit policies were required to resist disturbances in the internal price structure. The country should not be obligated during a period of unemployment and perhaps of falling prices to discourage the flow of credit by raising interest rates. External stability was indeed important, Mr. Keynes admitted, but not nearly so important as freedom with respect to internal credit policy. Furthermore, Keynes maintained, the definite announcement of a policy that might produce exchange instability would lead to the per-

¹ See *Monetary Reform*, pp. 167ff.

fection of devices, such as the quoting of forward exchange rates, which would remove a large part of the burden and expense of exchange instability from the shoulders of importers and perhaps also of exporters.

During this debate, the writer was never highly sympathetic with the proposal to abandon exchange stability as an objective of monetary policy. Perhaps the writer's objections were too idealistic. But it required proof that it would be impossible to achieve the two desiderata, external as well as internal stability, in approximate degrees at least. It is conceded that gold standard advocates have probably stressed too highly the advantages of external exchange stability. But it might be possible in the future, by such devices as cooperative central banking action, to achieve a moderate dose of each. It is dubious, moreover, whether internal price stability can be achieved in practice without stability of exchange rates. Exchange rate changes affect the costs of importing and hence internal prices. It is not clear, moreover, whether adequate devices of thrusting the burdens on exchange specialists can be perfected. This much was demonstrated, at any rate, by later experience—countries off gold have all found it necessary to set up special machinery to protect their economies against unexpected and undesired exchange rate fluctuations. The nature of these devices will later be explained.¹

During the period of debate the author's preference was for the stabilization of the dollar value of the pound at such a level as \$4.50, which would not be greatly out of line with the pound's internal purchasing power. A variant of this idea would not, however, have been totally unacceptable to him. Suppose the pound were for the time being stabilized only against a fall below \$4.50 and not against a rise, by an announcement by the English authorities that gold or dollars would be available at this level. If the pound should prove to be persistently strong at such a level, the gold conversion value of the pound could be lifted, perhaps to the point at which a \$4.86 pound could be guaranteed. It is to be admitted, however, that such a course would not have produced in other countries quite as strong confidence in the British economy as success in fixing its value perma-

¹ See below, pp. 337-345.

nently at \$4.86. But success of the \$4.86 policy could not be guaranteed.

THE DECISION OF THE ENGLISH AUTHORITIES

Which policy, of those outlined, did the English monetary authorities accept and what devices did they adopt to implement it? The accepted goal was to restore the pound at once to its prewar gold value. To do this it was announced in the first place, in the budget speech of Winston Churchill on Apr. 28, 1925, that the embargo on gold shipments would not be continued after expiration date, Dec. 31, 1925.¹

In the second place, the Bank of England was granted a license to deliver gold for export against the tender of any form of legal currency.

Third, the Gold Standard Act of May 13, 1925, provided that the Bank of England must sell gold bullion, in amounts not less than 400 fine ounces, for legal tender currency at the old price of £3 17 s. 10½ d. per standard ounce.²

Fourth, notes must be redeemed in coin only at the option of the Bank of England, and the right to present bullion to the mint for coinage into sovereigns was to be restricted to the Bank of England.

Fifth, provision was made for the transfer of 27 million pounds of gold in the Currency Note Reserve to the Bank of England and for its replacement by notes of the Bank.

Sixth, credits were acquired in America to defend the pound against dollar depreciation during the first two years after the return to parity. The amount of the credit provided by the Federal reserve banks was 200 million dollars. At the same time a credit of 100 million dollars was supplied by a group of private bankers in this country.³

By these devices England went on the gold bullion standard. Small amounts of gold could not be obtained from the Bank. The Bank's obligation was to provide gold only in amounts of 400 fine ounces or more. Neither could private owners of gold bullion any longer convert their bullion into coin. Nor could they demand that Bank of England notes be converted into gold

¹ This was the statute of 1920.

² Eleven-twelfths fine.

³ *Annual Report of the Federal Reserve Board*, 1925, p. 12.

coin. This much of the changes induced by the war's events had been retained to preserve the country's gold for foreign exchange purposes.

IMMEDIATE EFFECTS OF THE GOVERNMENT'S MEASURES

What were the immediate effects of this return to gold? Concerning this we read the following in the June, 1925, issue of the *Federal Reserve Bulletin*:¹

Restoration of the gold standard in Great Britain was accompanied by similar action by Australia, New Zealand, the Netherlands, and the Dutch East Indies. Gold payments had been resumed in Sweden a year earlier and on June 1 South Africa removed restrictions on gold exports.

Germany's currency had also been put in order after the great inflation of 1923 by the establishment of a new reichsmark based on gold. In 1926 the Belgian currency was reestablished on a gold basis. In 1927 the National Bank of Denmark resumed its obligation to redeem its notes upon demand in gold bars at the old parity rate; India reestablished the convertibility of rupees into sterling, this time at the rate of 1 s. 6 d. per rupee; the government of Ecuador established a new gold sucre and stabilized its exchange; Argentina also restored the gold standard; and toward the close of the year exchange stabilization was effected in Poland and Italy. France accomplished *de jure* stabilization in 1928. Within a few years after England's stabilization the gold standard had again become the well-nigh universal system. The era of capriciously fluctuating exchanges was drawing to a close. In the minds of cooperating central bank officials great satisfaction was derived from these developments.

How great a strain was at once imposed upon the English credit system to maintain the sterling rate at a level of \$4.86? On the favorable side it proved unnecessary to draw against the credit provided by the New York Federal Reserve Bank. But the Bank of England, after its reestablishment of gold, was unable to increase its gold reserves for any prolonged period. Its discount rate for the three years after resumption was continuously above that of the New York Federal Reserve Bank. Generally the pound-dollar rate was close to the New York gold

¹ P. 373.

import point. Continued and extensive unemployment remained a national problem.

Perhaps, however, it would have been reasonable to expect that the obstacles to renewed economic health in Britain would gradually be overcome and the country share in reviving world trade. But at no time after 1925 was the gold standard in England secure except with the assistance of cooperative action by the American banking authorities. In the next chapter we shall see the nature of this cooperative action and be provided with some explanation of its final failure.

CHAPTER XXVIII

THE FAILURE OF AMERICAN SUPPORT OF ENGLAND'S GOLD STANDARD

THE QUESTION OF THE INFLUENCE OF GOLD FLOWS

At the time of England's return to the old gold par, it was the weight of opinion that, at the \$4.86 level, the pound was heavily overvalued. If this opinion was well founded the security of the English monetary system would depend largely on the future results of gold flows. The question here was whether gold shipments to the United States would tend to produce sufficiently higher prices in this country to justify an exchange relationship between the dollar and the pound of 4.86 to 1. If prices in the United States should be unresponsive to increased gold holdings, England very likely would be required to undergo further deflation. But it was not probable that it could bear any increased unemployment without inciting widespread misery and discontent.

What factors in the problem could be cited as favoring an upward adjustment of prices in the United States in response to increased gold imports? The following may be mentioned:

1. Member banks, by the fall of 1924, were largely out of debt to the reserve banks. Gold imports, therefore, should operate principally to increase member bank reserve balances.

2. The Federal reserve administration, particularly the Strong faction, had indicated its approval of England's gold policy and had shown its willingness to cooperate with easy credit policies.

On the other hand, consideration of the following factors might lead to pessimistic conclusions:

1. The prices, if any, that would rise in America might not be those to support which Federal reserve credit could properly be extended.

2. Currency stabilization in various other countries after the spring of 1925 might involve serious undervaluations and thus increase the burden resting on the English export industries.

3. In 1925 American industry was not operating close to peak capacity. More abundant credit in the United States, therefore, might correlate principally with an increased physical volume of trade rather than with rising wages and higher commodity prices.

PROSPECTS OF A BULL MARKET IN AMERICAN SECURITIES

Of these and other factors that might be cited the one that probably created the greatest apprehension in Federal reserve circles was the possibility that easy credit might contribute to an uncontrollable bull market in securities. By 1925 speculative developments had already been such as to occasion great concern. In its annual report for 1923, the Federal Reserve Board had subscribed to the doctrine that it was no function of the reserve banks to supply credit for speculative operations either in commodities or in securities. Although the reserve banks disclaimed power to control the type of credits member banks might extend it was argued to be their duty to keep informed of the general trends in the use of credit, by statistical analysis and otherwise, and to take appropriate remedial action if undesirable speculative tendencies threatened. All this was interpreted to be in accord with those provisions of the Federal Reserve Act which denied the reserve banks the right to rediscount paper the proceeds of which were used to carry or trade in securities and which provided that discount rates should be fixed with the aim of accommodating "commerce and business," but not speculation.¹

Regardless of any specific provisions of the statute, however, the reserve administration would be expected, merely as a matter of prudence, to pay considerable attention to the use of bank credit by the security markets. The installation of a central banking system in 1914 in the credit structure was itself an inflationary measure. Reserves formerly held idle in individual bank vaults were now concentrated in the Federal reserve banks, and supplied a new basis for member bank credit extension. Under the new banking system deposits might be erected to an extent that would exceed many times the reserves of the reserve banks.² The reserve administration, in other words, had been

¹ Section 14, paragraph (d).

² For instance, \$1000 of net demand deposits of a country bank would require a \$70 balance with the reserve bank. The reserve bank's 35 per

provided with wide powers of currency and credit expansion, and only the wise exercise of its discretionary powers could provide assurance that inflationary evils would not result. Like all students of banking and finance, those influential in Federal reserve circles knew that in its early stages at least, an inflation is almost always characterized by a greatly increased volume of security market trading.

At the point of time to which we are now referring security prices had been rising steadily for a long period. By way of illustration, *The New York Times* index of 25 industrial stocks had risen from a high of 76.5 in July, 1921, to a high of 153.9 in July, 1925. In the same period, the *Times* index of 25 railroads had advanced, in terms of monthly highs, from 55.0 to 81.6. Monthly share sales on the New York Stock Exchange averaged 14.30 millions in 1921 and 37.69 millions in 1925. Concern was already developing in 1925 lest this bull movement get completely out of control.

A small dose of theoretical reasoning might easily serve to confirm this apprehension. What is P in our general purpose equation, $PT = CV$? Carl Snyder's¹ researches had then gone far enough to make readers of his memoranda and publications aware that an index of commodity prices is by no means identical in its movements with all prices, including wages, rents, and securities.² Surely nothing in the quantity theory of currency, as such, could establish that an expansion of the circulating medium must correlate with any particular type of prices. Perhaps, in a period of expanding credit, commodity prices would be held down by technical improvements in industry, by efficient management of labor, by large agricultural outputs. Security prices might then rise in agreement with, or in anticipation of, higher profits. The capitalization of roseate expectations at lower interest rates might be additional fodder upon which the bull market would feed. As Keynes later argued in

cent of this \$70 of deposits would be \$24.50, a sum less than $2\frac{1}{2}$ per cent, or $\frac{1}{40}$ of deposits held by the public. No allowance is made here for the increased requirements for circulating currency that would accompany a large deposit expansion. See above, pp. 285-286.

¹ Mr. Snyder is cited because he was then domiciled at the New York Reserve Bank.

² See above, Chap. XIII.

his *Treatise on Money*,¹ it is always necessary to distinguish between different types of inflations, as profit inflations, income inflations, and commodity inflations. Theory has no means of determining with precision the type of inflation that may be engendered by bank credit expansion.

RESERVE BANK POLICY DURING A SPECULATIVE BOOM

In the event, however, that speculation should become feverishly active, were there no means of combatting it save by abandoning the low rate policy that cooperation with Great Britain seemed to require? In this connection it must be recalled that the special controls later provided by the Banking Acts of 1933 and 1935 were then lacking. In 1925 reserve banks were not formally required to deny discount accommodation to banks making "undue" advances to the security markets. New York banks, and other city correspondents, could make security loans for the account of others, and these "others" were not subject to federal reserve controls. Neither had the Securities Exchange Act been written stipulating that the Federal Reserve Board should prescribe the margin requirements on loans made by banks for security purchases. The Federal reserve administration must then depend largely on its general powers of discount rate changes and open market operations to produce the desired effects.²

But how might the weapons of restraint be employed to curb speculative excesses without producing a regime of tight credit which would be antagonistic to the policy of cooperating with Britain? We are informed here that it was the Strong opinion that sharp, forceful, credit market jolts initiated by the reserve banks would subdue speculative excesses quickly and thus permit the reserve banks to return to a liberal credit policy before industrial expectations were seriously disturbed. The basis of this opinion was partly precedent and partly theoretical analysis. Mr. Carl Snyder had advised Mr. Strong³ that no bull market in securities had ever been able to withstand a 6 per cent call loan rate. To rationalize this position it must be kept in mind that

¹ See Vol. I, pp. 155-156.

² This is not to argue that these special curbs will be effective if the general powers of the reserve banks have been improperly used.

³ See Carl Snyder, *Capitalism the Creator*, pp. 227-228.

the characteristic feature of security operations is anticipation. Expert security analysts would expect the maintenance of a 6 per cent rate to delay new ventures and require the postponement of industrial expansion plans. A threat of the reserve banks to maintain high interest rates over a long period of time, a threat that could be repeated as necessity for such a policy should arise, might thus make it unnecessary for the high interest rates to be maintained very long.

The execution of the Strong policy called, of course, for the highest skill and boldness. When credit restraint was in order it would not do to follow moderate measures. If the usual procedure during periods of restraint was to push up reserve bank discount rates by $\frac{1}{2}$ per cent increases at somewhat prolonged intervals, correct policy, at this juncture, would require larger rate increases—say, 1 per cent. Open market sales of governments, necessary to mop up bank reserves and make the new discount rates effective, would have to be correspondingly heavy. Only boldness, during short periods, in employing measures of restraint would permit a long-term trend of easy credit.

FOREIGN COMPLICATIONS

Did foreign developments during the decade of the twenties make it easier or more difficult for the discriminating maneuvers that have been outlined to be made effective? It is unfortunate indeed that French developments added so greatly to the difficulties of completing world currency stabilization. In the first half of 1926 the franc had been falling rapidly. On July 20, immediately after the fall of the Herriot ministry, the franc was as low as 1.93 cents. Predictions were rife that the franc would follow the example of the German mark of 1923 and lose value completely. To make matters worse, the French budget was seriously out of balance and the progress of debt reduction conversations in America was such as to add to the prevailing gloom.

But the summer of 1926 proved to be the nadir of the French crisis. The franc was about to execute a surprising *volte face*. With the ascent of the Poincaré government in July and the introduction of stern measures of fiscal reform the franc was destined to strengthen rapidly. By the close of 1926 the foreign exchange value of the franc had risen to a point completely offsetting all the losses of the first seven months. Thence was

witnessed a tremendous return of refugee French capital from abroad, the easing of French interest rates, and the pull of gold from England. The improvement was so rapid as to disturb domestic trade, and the powers of the monetary authorities to restrain its advance were sharply tested. Eventually the franc settled down to a par of 3.92.

But, even at this level, the franc was undoubtedly greatly undervalued in gold. After the early part of 1927 the country's gold reserves were destined to increase rapidly, so that, by the middle of 1931, they almost equaled those of the United States. English gold reserves, on the other hand, began to display a slight downward trend. By the summer of 1927 the French gold pull against London, combined with some receding tendencies in American domestic business, seemed to indicate the necessity of a repetition of the 1924 reserve bank policy of alleviating credit measures. The first half of that year witnessed increased purchases of government securities by the reserve banks, followed in the late summer by discount rate reductions. This action was taken despite the fact that the use of bank credit in the security markets had admittedly reached apprehension levels.

TIMIDITY OF FEDERAL RESERVE POLICY IN 1927-1928

Under these conditions it would be expected that the alleviating credit measures of 1927 would shortly be followed by sharp although, if successful, temporary measures of credit restraint in the event that speculative activity should increase. But, in the first half of 1928, although the market's bullishness continued, the restraining measures of the reserve banks were by no means bold and vigorous. Those then dominant in Federal reserve circles inclined toward policies the author has always regarded as mild, moderate, and inconsistent with the original Strong plan.¹ At the New York Reserve Bank, the first half of 1928 witnessed, to be sure, three successive increases in discount rates. But none of these put the rate up more than $\frac{1}{2}$ per cent. In relation to the Strong theory, sales of governments by the reserve banks were also mild. Under these conditions the speculative frenzy was permitted to develop, and its only correction was to be found in the eventual violent and deflation-resulting security market collapse of 1929.

¹ See Reed, *Federal Reserve Policy, 1921-1930*, Chap. IV.

The reader is entitled to inquire why the intended bold program of short-term restraint developed in the mind of Governor Strong was not carried out. A number of facts should here be cited. First of all, Strong himself became ill and was obliged to withdraw from active administration of the New York bank. Those who succeeded him to positions of influence were evidently unsympathetic with his original conception. In the second place, there probably was political pressure to postpone severe curbing measures at least until after the fall elections of 1928. Third, difficulties were encountered in securing the prompt cooperation of the different reserve banks, particularly in the field of discount policy. It was at this juncture that the administrative faults of the compromise of 1913 which led to the creation of 12 regional banks showed up at their worst. In brief, it took too long to work out a unified policy since so many reserve bank officials had to be consulted. Fourth, and this point is believed to be correct despite its foundation largely in surmise and rumor, special interests exerted shortsighted pressure and were devoid of the social-mindedness required to support corrective measures.

The theory of gentle and relentless pressure over a long period was thus substituted for bold, aggressive, and, if successful, short-term measures of curbing the security market's use of credit. But how did the Federal Reserve Board justify the 1928-1929 policies? As might be expected, its approach was largely legalistic. It pointed out in the February, 1929, issue of the *Federal Reserve Bulletin* that it had no concern with the level of security prices as such. It did insist, however, that, under the language of the original act, it had a responsibility to preserve an adequate flow of credit for commerce, agriculture, and industry; and that it must therefore resist to the extent its powers permitted the undue diversion of credit into speculative channels.

THE QUESTION OF SECURITY MARKET ABSORPTION OF BANK CREDIT

But does the use of credit in security channels necessarily imply a withdrawal of credit from other uses? The author's position has always been that no a priori judgment can be rendered. All depends on attendant circumstances. In some situations nonspeculative business may be deprived of credit as a

consequence of the use of credit in security market operations. Under other circumstances, however, reverse results would follow, and the security markets would have to be regarded as a channel through which otherwise idle credit is routed to industry, commerce, or agriculture. Let us illustrate first a situation in which stock market uses of credit are at the expense of other business.

Let us assume that an interior bank is "loaned up." It gets in a position to make a loan to a purchaser of a security either by letting a commercial loan mature without renewal or by refusing to meet a new application by a commercial borrower. The proceeds of this credit—perhaps it is only the marginal part of the payment—will then be transferred to the seller of a security. This seller might hold the proceeds inactive for a time or might purchase an issue from a second seller who in turn holds the proceeds inactive or finally purchases from another seller who similarly builds up his credit for future trading. Under such circumstances there would be no question but that security trading withdrew, perhaps for a long period of time, credit that otherwise would have been available for industry and commerce. Or, if the nonspeculative applicant for a bank loan is accommodated and the bank foregoes a speculative loan, the interest rate would probably be higher than the commercial borrower would otherwise have had to pay.

To read the pronouncement of the Federal Reserve Board one must assume that such transactions were believed to be frequent, if not typical. But how frequent would they have to be in order to offset the influence of transactions which have a reverse influence? To illustrate a transaction with converse results, let us assume that a business corporation holds an idle balance (working capital—a rainy day fund—or credit accumulated in anticipation of eventual expansion). The high call loan rates that developed in the stock exchange centers in 1928–1929 led it, perhaps, to inquire if this credit should not be put to profitable use. The corporation accordingly directed its bank to purchase for it a broker's note. The broker lent this credit to a customer who bought a new corporate issue. The second corporation employed the proceeds in an industrial use. In this way the security market routed otherwise inactive credit into active industrial use.

Which of the two types of transactions, or variants thereof, were the most numerous in 1928–1929? Only by inference could a conclusion be reached. Deductions can be made from various data and from such phenomena as the failure of the country's deposits to become disproportionately large in the security trading centers, as well as the high correlation of security turnover with dollar velocities.¹ The author came to the conclusion that in the period in which we are here interested the influence of the bull market in diverting credit from other uses was rather slight. To this extent the author disagreed with the Federal Reserve Board. On the other hand, however, there seems to be clear evidence that, in the face of competing security market demands, open market interest rates for commercial borrowers were somewhat increased as a consequence of the stock market boom.

In any event, we know the high levels to which interest rates developed in New York City as the Federal Reserve System continued its policy of gradual, though relentless pressure to try to subdue the security market's use of bank credit and to preserve such credit for "legitimate" business. In 1929 the monthly average of daily renewal call loan rates at the New York Stock Exchange was 7.62 per cent, as against 3.08 per cent in 1924. Throughout 1928 and 1929 the trend of gold movements was toward this country instead of away from it. In its contest with the Federal Reserve System to secure ample credit the security market had won. It had produced interest rate levels which were drawing funds from other centers, even from abroad. It is little wonder that, after this episode, Federal reserve prestige was very low indeed.

FUNDAMENTAL DIFFICULTIES UNDERLYING RESERVE CREDIT POLICY

But should this country's domestic policy since 1924 have been adjusted to the requirements of stabilizing the dollar value of the pound and, later, of other important currencies? About this there has been endless controversy. It is now clear that the piecemeal return to gold by different countries was a mistake, with the pound too high and the franc too low, and that only a concerted, cooperative, and scientific return to the gold standard

¹ The use of otherwise idle deposits would be reflected in an increase of deposit velocity.

should have been attempted. Then, again, too much may have been expected by monetary action alone. It was not consistent for a creditor nation to employ the weapon of higher tariffs to prevent the importation of goods and at the same time insist on war debt payments, while its credit policy was directed toward giving its exporters the advantage of a high and stable sterling exchange. We either had to permit debts to be paid in goods or forego collection. But, on the other hand, a consistent adherence to the principles of the Strong policy might have provided the breathing spell during which needed adjustments in other fields could have been accomplished.

As it was, however, the deflationary influence of tumbling security prices in this country after 1929 was destined to seal the doom of England's overvalued pound. The overvalued pound could not prevail in a world headed for general depression. More specifically, the drain of the world's gold to France and the United States in 1930 and 1931 and the shock induced by the failure of the Credit Anstalt in Austria in 1931, as well as by the German economic collapse, compelled the failure of England's gold standard. In the next chapter we shall see what type of currency arrangements were devised to take its place.

REFERENCES

- In the matter of the absorption of bank credit in the stock market, see:
- WILLARD C. BEATTY, *Security Loans, 1924-1930*, doctoral dissertation deposited in the Cornell University Library.
- WILFORD J. EITEMAN, "Economics of Brokers' Loans," *American Economic Review*, March, 1932, pp. 66-77.
- FRITZ MACHLUP, "Bank Deposits and the Stock Market in the Cycle," *American Economic Review*, supplement, March, 1940, pp. 83-91.
- TWENTIETH CENTURY FUND, INC., *The Security Markets*, Chap. X.
- For general background material, see:
- CHARLES E. GALBREATH, *Sterling Area: Its Development and Operation*, doctoral dissertation deposited in the Cornell University Library.
- T. E. Gregory is not so sure the pound was overvalued in 1925. See: *The Gold Standard and Its Future*, pp. 41-42.
- The foremost objector to England's return to a \$4.86 pound in 1925 was Mr. J. M. Keynes. See his:
- Economic Consequences of Mr. Churchill.*
Letters to the Times, July 31, 1925, and Sept. 4, 1925.
A Tract on Monetary Reform.

CHAPTER XXIX

THE ENGLISH EXCHANGE EQUALIZATION ACCOUNT

BRITAIN ABANDONS THE GOLD BULLION STANDARD IN 1931

England gave up the gold bullion standard of 1925 by the Gold Standard Amendments Act of Sept. 21, 1931. By this act the Bank of England was relieved of obligation to sell gold bars for currency at the old rate of £3 17 s. 10½ d. per standard troy ounce. At the time of this action authorities were not in complete agreement as to whether the abandonment of the gold standard was really necessary. The American economist, Mr. B. M. Anderson, contended that, even in the summer of 1931, the imposition of an 8 per cent rate by the Bank of England would have saved the standard.¹ Mr. Leonard Waight, an English writer, argues, on the other hand,² that by 1931 the London credit market was in a completely vulnerable situation. England, he holds, had for years been lending "long" and borrowing "short" (by the method of permitting foreign capital dispatched to the country to be invested in short-dated English treasury obligations). The funds lent by Great Britain could not be liquidated sufficiently promptly to offset sales of treasury issues and the withdrawal of the proceeds. In the two months prior to suspension, London's gold had diminished to a point below its sight liabilities.

No matter what the technical merits of this dispute, there is no question but that the 1925 expectations of an easy establishment of a \$4.86 pound had been rudely jolted. The commodity price level in the United States did not get pushed up easily by exports of gold to it. Speculative credit demands, on the other hand, and the efforts to subdue them, had raised interest rates in New York to a point attracting gold in 1929. French stabilization at

¹ "The Gold Standard and the American Gold Tradition," *The Chase Economic Bulletin*, Nov. 20, 1931, p. 11.

² *The History and Mechanism of the Exchange Equalization Account*, pp. 6-7.

a low rate had also proved an unexpected blow to the \$4.86 pound. If there was real ground for skepticism regarding the wisdom of the 1925 policy, even stronger reasons could be found for discontinuing the policy in 1931.

DOUBTS AS TO THE VALUE OF EXCHANGE DEPRECIATION

What type of monetary policy should be observed after the abandonment of the gold standard? Should the pound be free to move up or down so that credit operations could be based exclusively on the requirements of the domestic situation? Should the English monetary authorities be free to inflate, if they so desired, or to deflate, without regard to foreign exchange rates? Should exchange depreciation, carried on perhaps to a point at which the pound would be greatly undervalued, be attempted in the hope that such a course would provide the needed stimulation to the export industries? Such questions were shortly to find an answer.

Within two and a half months after suspension the pound had fallen to \$3.30, or more than 30 per cent. This was a tremendous degree of exchange depreciation. Did it prove entirely beneficial? On the export side the results were generally disappointing, largely for the reason that other countries, including members of the empire, stayed on sterling, so that with the currencies of these countries the pound did not depreciate. On the other hand, import calculations were greatly disturbed by increased pound costs produced by the fall in sterling. Since, further, it was realized that its benefits can only be temporary at best, enthusiasm over a policy of exchange depreciation was subdued.

Shortly, however, the opinion developed in the exchange markets that the pound had fallen lower than it should and, thence, the pound began a sharp recovery. From the middle of December, 1931, to early April, 1932, the dollar value of the pound improved by about 15 per cent to around \$3.80, and this advance seemed to be even more disturbing to industry than the previous decline. Since overdone depreciations supply the fodder for subsequent and unwanted appreciations, the necessity of some sort of an exchange stabilization machinery was indicated.

What was the reason, however, for this sharp (December to April) recovery of the pound? Of principal importance probably was the fact that internal credit policy proved to be conservative.

The lapse from the gold standard, in other words, was by no means to be taken as an excuse for undertaking radical policies. The interest of the financial authorities was largely concentrated on the creation of a satisfactory budgetary situation. In this the problem loomed large of how best to remove fiscal uncertainties by converting the large floating debt of the country into long-term funded obligations. In the years preceding 1931 it had not been possible to make progress in this direction as the necessity of preserving the \$4.86 pound had required a high bank rate. To economize in budgetary expenses, the interest burden could be kept low only by short-dating a large portion of outstanding treasury obligations. Short-term issues could be marketed at lower rates than the longer term obligations.

THE DEBT-REFUNDING PROBLEM OF 1932

These short-dated obligations were issued in such quantity, however, that they bore higher rates than would have been required if the short-term debt had been of more moderate dimensions. Short-term treasury issues proved attractive investments for free foreign capital. Should interest rates in London later rise they could be reconverted on maturity into new and higher yield obligations. In late 1931 their appeal to foreign investors was lessened by prospects that the pound might undergo depreciation. But as confidence in the pound increased and other currencies, the principal one of which was the dollar, came under attack, conditions changed. More and more the opinion developed that the pound, already off gold and probably excessively depreciated, was safer than those other currencies about to go off gold and destined to experience panic-inspired depreciation.

Foreign capital invested in short-dated treasury obligations constituted the "borrowing short" menace to which reference has been made already. Their volume indicated the extent to which the nature of English banking had changed since before the war. When shorts due foreign investors came to maturity London would be threatened with an egress of capital and that was all there was to it. By contrast, operations of acceptance and discount houses in earlier years, in providing the credits for international trade, had been of a different character. On the maturity of the acceptance credits cover would be provided by the foreign beneficiaries, presumably out of the proceeds of the

sold goods. For the Bank of England to create tenses conditions in London operated also to restrict the extension of such acceptance credits. To reduce the amount of new credits would thus create a demand for sterling exchange and tend to shift the gold movement toward England. The fact that London was normally a creditor in the short-term bill market goes far to explain the power of the Bank of England over gold flows. To express all this in other words, acceptance credits of prewar years had been of a commercial and liquefying type, whereas foreign investments in short-term treasuries were substantially the equivalent of demand deposits.

British fiscal authorities at the beginning of 1932, therefore, conceived it to be especially important to create a situation in which the magnitude of the short-term public debt could be reduced, that is, refunded on reasonable terms into longer dated issues. Why not then have the Bank of England increase its open market purchases of consols, all for the purpose of increasing the reserves of London banks, so that interest rates would be lower? With the Bank of England relieved of the responsibility of providing gold, there would be no physical limit to the extent to which the Bank could thus operate.

Such a course, however, would be of dubious prudence. Commodity prices might rise as a consequence of the credit expansion, and a monetary unit of falling value might discourage investment in fixed-income obligations. From the point of view of interest rates it must also be remembered that temporarily low short-term rates do not necessarily encourage high bond prices (low long-term rates). The investor may stay on the sidelines until conditions become clearer. In view of these considerations the balance of advantage seemed to lie in favor of a policy of creating confidence in the currency so that appeals for long-term capital, foreign as well as domestic, would be successful. This refusal of the authorities to use the Gold Standard Amendments Act as an excuse for an inflationary policy had its inspiration in part in the fiscal necessities above outlined and operated to produce the rapid strengthening of the pound early in 1932.

PROVISION FOR EXCHANGE CONTROL IN 1932

On the other hand, however, a rapid rise of the pound in the foreign exchanges was undesired. The import industries would

be subjected thereby to especial handicap. In stabilizing the pound at this juncture, furthermore, there would arise the opportunity to increase the country's future foreign exchange resources to be drawn against if the pound later on should tend to decline. Sales of pounds by an authority created for the purpose would accomplish twofold results, first, of abating the rapidity of the pound's improvement, and, second, of acquiring the foreign resources which could be employed to protect the pound against an unwanted and subsequent decline.

The new exchange control mechanism came into official operation on June 24, 1932. Unofficially the treasury had been working along the lines of the policy suggested above perhaps six months earlier. The new agency, statutorily authorized by the Finance Act of 1932, was termed the Exchange Equalization Account, "which shall be under the control of the Treasury." Publicity in its operations was not required because it was realized that undesired speculation in the foreign exchanges could be combatted more effectively if the market was unaware of the extent and type of the control's operations as well as of the amount of its resources.

How might this agency, the E.E.A., obtain the sterling resources to be used to acquire foreign exchange or gold during a period in which the pound was tending to strengthen? Unless Parliament was prepared to write down the gold value of sterling, or, in other words, put up the sterling value of gold, the E.E.A., unlike certain other stabilization agencies, could not obtain its domestic currency resources out of the profits of revaluation. But conditions in other countries were regarded as too unstable to recommend a policy of permanent revaluation. England had suffered sufficiently after 1925 by undertaking definitive action. Shortly after the restoration of a \$4.86 pound in that year France was in a position to stabilize the franc at a level which resulted in drawing gold from London. There remained but one resource, to provide the Fund with treasury obligations, the sale of which would take out of the domestic credit market the sterling funds required to purchase foreign exchange or gold. But, lest this device be considered an inferior method of financing the operations of a stabilization agency, let it be kept in mind that it produces the same results as the sterilization of gold imports.

Reference has been made to the sterilization procedure of the United States in 1936-1937.¹

THE OPERATION OF THE FUND DURING A CAPITAL INFLUX

Let us assume a period in which the inflow of foreign funds is so rapid as to tend to produce a marked increase in the foreign exchange value of the pound. If this improvement of the pound should be believed to be due largely to the receipt of trading balances, that is, to an excess of exports over imports, there would be no sufficient reason perhaps for the E.E.A. to intervene. It is classical doctrine that such movements of gold should be permitted to exercise their normal influence upon price levels. If they do not so operate the forces that must be relied upon to equilibrate out and in payments may be nonexistent. But if, on the other hand, the purchase of sterling had its origin principally in the movement of refugee foreign capital out of dollars, guilders, francs, and other currencies, a return movement of this capital might be expected when conditions abroad had become stabilized. The E.E.A., therefore, should be prepared to meet any such demands by the method of providing gold or foreign exchange. During the period of an influx of nervous foreign capital it should acquire foreign currencies and, possibly, convert them into gold.

The situation would then require sales by the E.E.A. of sterling obligations to the market, and the offer of the sterling proceeds for foreign currency. Starting with a French purchase of pounds, the sequence of transactions would perhaps be as follows: The owner of a deposit account in a Paris bank converts his francs into a credit at a London bank. Such an operation would substitute the Frenchman for the Paris bank as the owner of a London deposit credit. Since the account of the French bank in London is thus reduced we may presume that it would be rebuilt through the purchase of sterling by the French bank. This would tend to strengthen the pound in terms of francs and help swing the movement of gold toward London. If this gold should be employed in England to support new deposits it could not be withdrawn at some later point of time, except perhaps by producing tenser credit conditions. To avoid alternate expan-

¹ See above, p. 290.

sions and contractions thus induced by movements of scared foreign capital the E.E.A. could engage in offsetting operations.

The first step followed by the E.E.A. in situations like that outlined above might be to purchase francs and perhaps convert them into gold. Such a purchase would tend to retard the rise of the sterling exchange in Paris and thus prevent the flow of gold to London. These francs, or the gold into which they were converted, might be sold later to meet the requirements of those then withdrawing capital from London. Gold or foreign exchange could thus be provided without taking gold out of the internal credit system.

Whence would the E.E.A. obtain the sterling credits, that is, London deposit credit, required to purchase the francs? As indicated above, the E.E.A. could sell treasury obligations in the London market. Through clearance, the result of such sales would be to shift balances at the Bank of England from the London bank to the E.E.A. Since the E.E.A.'s account at the Bank of England is carried under the heading of Public Deposits, the transaction would result in a reduction of Bankers' Deposits, and a corresponding increase in Public Deposits. This transfer would not alter the "proportion" of the Bank of England (ratio of cash and notes to deposits).¹

Would not this reduction in balances at the Bank of England possessed by the London bank (the English equivalent of member bank reserves) require credit contraction in London? Such would be the effect if we neglect the results of the E.E.A.'s purchases of francs. The purchase of the francs in London by the E.E.A. operates to restore both the balances of the E.E.A. and the London bank at the Bank of England to their former positions.

On the completion of these transactions, then, we would have the following results (capable, of course, of being offset by other transactions):

¹ The Bank of England has two departments, the Issue Department and the Banking Department. The function of the Issue Department is to provide notes to the Banking Department in exchange for the required collateral, coin, bullion, securities. Once obtained, the notes are the equivalent of other forms of cash in the Banking Department. Students not particularly interested in the details may regard the Issue Department as functionally the equivalent of our Federal reserve agents, that is, custodians of note issue collateral.

1. The Frenchman lost a deposit at a French bank and acquired a deposit at a London bank.

2. The London bank lost credit at the Bank of England when it, or one of its depositors, bought a treasury obligation, but it regained this credit when francs were sold to the E.E.A.

3. The E.E.A. gained credit at the Bank of England when it sold treasury obligations held on "tap," but lost this credit when it purchased francs.

On the windup of these transactions the E.E.A. has acquired gold or francs, and the Frenchman has exchanged francs for a deposit in London. But the London bank receiving the French deposit has purchased a treasury obligation, so we may regard the Frenchman as the indirect purchaser of the treasury issue. As a matter of fact, the French capitalist may have converted his francs directly into English treasury obligations. In final summary, the E.E.A. gave up treasury obligations and obtained gold. This gold, however, did not become the basis of credit expansion in England.

The effect of such operations, of course, might be countered by contrary policies of the Bank of England. The possibility of antagonistic policies by the two agencies is sometimes given as a reason against the creation of a separate stabilization agency. As indicated, however, the Bank of England was not authorized in 1932 to acquire gold at a sufficiently high price, and the time had not yet come when Parliament was willing to fix a definite sterling price for gold purchased by the Bank. New machinery was required under these circumstances. But under the conditions that have prevailed in other countries, as perhaps the United States, it is not impossible that influence with the political administration largely explains the grant of stabilization power to an agency, apart from the central banking system, which the treasury dominates.

THE OPERATION OF THE FUND DURING AN EFFLUX OF CAPITAL

In a period of a possible return movement of refugee capital, the basic transactions would be reversed. The reader should be able to do this for himself. The E.E.A. would give up gold (or francs) and get sterling credits. The London bank would sell treasury obligations, and the E.E.A. might buy them. The London bank would lose credits at the Bank of England when it

purchased francs, and the seller of the francs (the E.E.A.) would gain these credits. At the Bank of England, Bankers Deposits would fall through this transaction, and Public Deposits (the E.E.A's balance) would increase. On the sale of treasury obligations by the London bank, however (assume for simplification purposes they are sold to the E.E.A.), Bankers Deposits would rise again, and Public Deposits would fall. The Frenchman would give up his sterling deposits and reacquire his francs. But no contraction of British bank credit would be required by the return flow of French capital. In summary, the Frenchman would reacquire his francs, which would be supplied by the E.E.A. without destroying the basis of English bank credit.

In the above-outlined simplified operations it is not intended to imply that the E.E.A. could reduce its policy to the automatic observance of mechanical rules. Knowledge of the facts was predicated above. It is not always clear just what a foreign demand for sterling signifies. Judgment is required to determine the probabilities of a return capital movement. Then, again, it might not be dangerous for England to match to a conservative extent any currency expansion that is proceeding abroad if such a course might seem necessary in the interests of full employment at home. It is by getting out of step in currency expansion (ahead of the procession, in other words) that a country subjects itself to the greatest danger. The managers of any stabilization fund must proceed largely by trial and error to the end that undesired short-time exchange fluctuations due to temporary capital transfers may be mitigated.

SUPPLEMENTARY OPERATIONS OF THE FUND

Through experience, as would be expected, additional information has been gained regarding modifications of the procedure postulated during a period of an inflow of refugee foreign capital. It was pointed out in the capital inflow illustration that the London bank's balance at the Bank of England is restored when offsetting operations are completed. But, despite these operations, the cash ratio (Bank of England balance to deposits) of the London bank tends to fall. The deposit of the French capitalist operates to increase the obligations of the London bank against which a reserve (not legal but conventional, in England) is required. To restore the London bank's cash ratio to its former

position additional operations are required. These might take the form of a purchase of treasury obligations by the E.E.A. in London, thus offsetting in part the original sales by the E.E.A. of treasury issues. Or the Bank of England might engage in open market purchases. Such purchases would tend to reduce the Bank of England's proportion (ratio of gold and notes to deposits, bankers and public). To correct the impaired proportion the E.E.A. might sell some of its gold to the Bank of England¹ and thus increase the Bank's gold.

CONTROL OF GOLD MOVEMENTS

How were gold movements controlled under the new machinery? The Bank of England was no longer required after Sept. 21, 1931 to provide gold at a fixed sterling price. Neither, until the Currency and Bank Notes Act of 1939, was there any revision of the buying price of gold, with the result that the Bank of England's buying price for gold was too low to be effective. In the open market machinery was developed whereby the price of gold would be fixed each morning at Messrs. N. M. Rothschild and Sons. Through selected agents the E.E.A., to the limit of its tremendous resources, could operate as a buyer and seller of gold in this market. Since the United States, after the Gold Reserve Act of 1934, maintained a fixed buying price of \$35 an ounce, gold shipments would depend thenceforth on the relationship of the London open market price of gold to the sterling-dollar exchange rate.

Assume, for instance, the exchange rate, influenced if not controlled by the E.E.A., to be \$4 to the pound. What would have to be the open market price of gold in order to induce shipments of gold to the United States? Since, before the outbreak of the present war, the cost of shipping gold between the two countries was about 23 cents an ounce, \$34.77 would be realized by a shipment to the United States. At a rate of \$4.00 to the pound, this \$34.77 would net £8.69. At a \$4 exchange rate any open market price less than £8.69 per ounce for gold would tend to move it to America. A low sterling-dollar exchange rate would also encourage the exodus of gold from London.

¹ At the statutory price, but under condition that adjustments would be made eventually when a higher price for gold would be authorized.

CHAPTER XXX

DEFLATION AND THE COLLAPSE OF THE AMERICAN BANKING SYSTEM

FAILURE TO SUSTAIN A HIGH POUND

England's gold-standard experience after the first World War has been outlined largely because of its bearing on the course of events on this side. In this chapter we shall be further concerned with developments that made the American banking system so vulnerable, leading to the economic collapse of 1929-1930.

Of first importance are the facts of our foreign exchange policy referred to in the previous chapter. When, in 1924, this country's agricultural districts were faced with falling prices and reduced farmer's incomes and with prospects of increased failures of banks whose portfolios held sizable amounts of farmers' paper and which, in many sections, were heavily indebted to the Federal Reserve Banks, the remedy was to facilitate the return of the British pound to its prewar dollar par. To the extent that our agricultural products were exported to sterling currency areas, after 1925, the Strong policy could be interpreted as one of lifting farm prices directly. The cheap credit policy of the reserve banks in 1924 carried the additional stimulation of reducing, by reserve bank purchases of governments, the indebtedness of member banks to the reserve institutions.

The interest of Benjamin Strong in agricultural prices is indicated by his testimony before the Joint Commission on Agricultural Inquiry in 1921.¹ The governor of the reserve bank situated in the country's leading financial center was fully conversant with the adverse factors bearing upon agriculture. During the First World War, farm acreage under cultivation was considerably enlarged as a consequence of European requirements. Immediately after the war, ravished Europe's demands continued heavy, and, after demobilization, rapid industrial reconstruction in this country prevented immediate readjustment. In the

¹ *Agricultural Inquiry*, part 13, Hearings, pp. 447-814.

meanwhile speculation in farm land was spirited and resulted in the offer of much farm paper and mortgages to banks and insurance companies. When price deflation began early in 1920, banks in the agricultural sections found a large portion of their portfolios frozen. At the same time they were heavy borrowers from the reserve banks on account of Treasury war borrowings. Banks suffering deposit withdrawals could restore depleted reserves, in case the method was to sell these bonds in the market, only by taking heavy losses. The depreciation on Liberty and Treasury bonds is indicated by the fact that the 1920 average (of daily rates) yield was 5.45 per cent.¹ Not until 1925 did the yearly average rate fall below 4 per cent.

In the recovery of 1922 and 1923 this insecurity in farm area banks was temporarily much lightened. But by 1924 the situation had again become serious. The Federal reserve cheap credit policy was designed, therefore, not only to increase farm earnings by lifting dollar export revenues, but also to give banks an opportunity to unfreeze their portfolios.

After 1925 a permanently stable situation might possibly have been achieved if England could have succeeded in completing its deflation or if mild domestic inflation had developed in this country without inciting uncontrollable speculation in securities. It is by no means improbable that rigid and consistent adherence to the Strong policies by the reserve banks would have permitted this stabilization to succeed. But, as matters did develop, Federal reserve policies became confused and uncertain, and in 1928-1929 prolonged but mild credit restraints were imposed. Under these conditions the abandonment of England's gold standard, at a time of widespread and foreign-induced shock, became inevitable. A falling pound, after September, 1931, added to the woes of our agriculture at the very time domestic industrial disruption forced city workers, particularly those out of work, to subsist on cheaper food.

DEFLATIONARY INFLUENCE OF THE STOCK MARKET COLLAPSE OF 1929

It is not necessary for present purposes to explain other causes of the 1929 stock market collapse and its subsequent failure to produce a sustained recovery, except to indicate that before the

¹ *Standard Statistical Bulletin*, Base Book Issue 1930-1931, p. 48.

catastrophe all agreed the security market had risen generally to a level which could be justified only by a continued improvement of corporate earnings. Once it had become clear that such continued profit improvement was unlikely, an unprecedented bear market in securities was inevitable; and a bear market is itself one of the strongest of all deflationary influences. Falling security prices destroy collateral values behind loans; even to the extent sales to "strong holders" permit loan repayments bank deposits are reduced and become restricted for other uses. *A*, the seller, obtains *B*'s deposits and has them canceled as he pays his loan. In this way the country's currency is contracted. The market for new securities is impaired, and a ticker-minded country succumbs to gloom (except in bear market circles). Probably the best cure for a security market deflation is usually a prompt and severe decline to levels that are generally believed to be absurdly low. By 1929, however, the previous advance had been so sharp and prolonged that an immediate decline to any such level would have wrecked margins behind hundreds of millions of dollars of loans.

THE SOLVENCY CONDITION OF THE BANKS

But no matter what happens to the course of business and industry it is necessary, if the forces of recovery are to be assisted, that the banking system retain its solvency. It is insufficient for a banker to maintain that the institution he manages is in reality an investment trust and should not be expected, in a period of severe shock, to maintain the 100 per cent redeemability of its deposit obligations. Business simply cannot sustain the added deflationary influence of widespread bank insolvencies, and, in good years, banks should be managed from the point of view, not so much of deriving maximum profits, as of ensuring solvency in periods of stress. With this in mind, let us inquire as to the respects in which, at the beginning of 1929, the banking system was strong, as well as the respects in which its powers of resistance to deflationary forces were weak.

In the opinion of the writer the whole country during the decade of the twenties was heavily overbanked. Revenues, in other words, had to be spread over too many institutions to assure conservative investment and loan policies. It is not so easy, however, to prove this assertion by citing statistical evi-

dence. As a matter of fact, there had been a considerable reduction in the number of banks between June 30, 1920, and June 30, 1930.¹ The 29,829 banks of the earlier date had fallen to 23,852 by the latter date as a result of failures, mergers, and voluntary liquidations. All through the decade bank suspensions had been numerous. They were not confined to the years of adverse cyclical movements.

BANKS SUSPENDED LESS THOSE REOPENED AND THEIR DEPOSITS*

Year	Number	Deposits, millions of dollars
1921	441	179
1922	289	75
1923	611	177
1924	682	191
1925	550	156
1926	807	212
1927	567	158
1928	452	123
1929	584	209
1930	1198	803

* From *Annual Report of the Federal Reserve Board*, 1930, p. 131.

Neither had the percentage of institutions which belonged to the Federal Reserve System declined much in this 10-year period. On June 30, 1920, 9398 banks or 31.5 per cent of all institutions were members. On June 30, 1930, the 8315 member banks were 30.6 per cent of the total.

In respect to the share of member banks of the Federal Reserve System in the total loans and investments of all banks we find the percentage (61) to have been the same on June 30, 1920, as on June 30, 1930.² The optimist, as well as the student disinclined to predict after the event and to interpret the going problem in terms of later developments, could therefore plausibly maintain that:

1. Considerable progress had been realized in the decade in reducing the total number of banks in the country.
2. The process of reduction had not been confined solely to years following industrial reaction.

¹ From *Annual Report of the Federal Reserve Board*, 1932, p. 119.

² From *Annual Report of the Federal Reserve Board*, 1932, p. 118.

3. The membership in the Federal Reserve System had not been relatively weakened.

How about the capital holdings of banks in relation to their deposit liabilities? The following facts should prove interesting:

On June 30, 1920, the ratio of member banks' capital, surplus, and undivided profits to total deposits was not quite as good as on June 30, 1930.¹ Neither, on the latter date, was the discount indebtedness of member banks to the reserve banks nearly as heavy as 10 years before. Finally, the ratio of the reserve banks' reserve to Federal reserve notes and deposits combined was a little higher at the end of 1930 than at the end of 1921, despite the fact that during the year 1921 reserve ratios increased from 47 per cent in January to 71 per cent in December.

GROWING DIFFICULTIES OF SMALL BANKS

On the basis of such facts, it is difficult merely by statistical procedure to show any deterioration during the decade in the solvency condition of the banking system. But, as so often is the case, over-all statistics were either inconclusive or deceptive. Relative to existing conditions the country was undoubtedly more heavily overbanked at the close of the period than at the beginning. The decade was one of enormous expenditure on better roads and automobile improvement. Access to city institutions was so much improved that everywhere the tendency was for the more profitable accounts to be transferred to institutions equipped with facilities to provide superior services. There is no statistical means of indicating the precise extent to which the small country bank was suffering from city competition. Personal observation of every informed inquirer, however, indicates it to have been serious indeed. In innumerable instances harassed banks tended to make up for loss of revenues by investing in high-interest foreign and low-grade domestic issues. Until defaults on such issues became general the deterioration of bank assets was largely concealed.

It would be interesting, nevertheless, if the classifications of bond lists under quality ratings, particularly of the smaller and frequently less highly capitalized institutions, could be obtained. If available, they would undoubtedly show a tremendous impairment in quality. Bond holdings, moreover, were generally

¹ See *Annual Report of the Federal Reserve Board*, 1930, p. 94.

tending to become a much larger portion of total earning assets. To the extent that bonds were purchased for secondary reserve purposes it would of course be expected that their quality would be high. When purchased, however, to make up for reductions in loans the factor of return was brutally thrust upon the banker's consciousness. It is undoubtedly true that many administrators of small banks, shrewd judges of local credit though they may have been, were incapable of developing overnight the expertness in bond management that the new conditions required.

INSUFFICIENCY OF THE PRE-1929 LIQUIDATION

Confidence in the opinion that liquidation of banks had not gone nearly far enough by 1929 seems justified by reasonable deduction. After the crisis of 1920-1921 when the reserve banks more or less unintentionally intervened in the credit system by buying governments for profit with the effect of offsetting impairment of member bank reserves, the following decade was one of active intervention whenever reactions threatened. We have made reference to the policies of the reserve banks in 1924 and 1927. Until 1929, recessions were not permitted to produce the full measure of those readjustments upon whose healing influence recoveries had traditionally been based. Many dubious credits were carried through the minor recessions. Their real weakness had to be exposed after the stock market debacle of 1929, England's lapse from gold in 1931, and the shocks induced by such catastrophes as the Austrian Credit Anstalt failure in the summer of the same year. By way of contrast with Federal reserve operations in this decade, the old much criticized, inelastic, national banking system necessitated frequent and periodic returns from business excursions into the fairyland of roseate optimism. Under earlier experience booms had to come to a close sooner or later as a result, or at least in anticipation, of exhausted surplus reserves of the banking system. From 1921 to 1929 the reserve banks were constantly possessed of large surplus reserves so that they were under no external restraint to withhold accommodation. Strong's greatest error in 1924 and in 1927 may have been his assumption that deliberately imposed restraints, even though intended to be applied only for a short period, would command acceptance later on by other Federal

reserve officials. Men of vigor and imagination find it difficult to understand the inhibitions to which most minds are subject.

EFFECTS OF POOR BOND LISTS

Was it exclusively the general poor quality of bank bond holdings that contributed to losses after 1929 and accelerated bank insolvencies? Superficial examination of this question suggests of course a decisive and affirmative answer. From the fall of 1929 to October, 1931, the prices of high-grade bonds tended even to strengthen. United States Treasury issues, as well as corporate Aaa securities, were higher in September, 1931, than in September, 1929, and corporate Aa bonds were almost as high on the latter date. Issues with an A rating declined in price considerably, so that the average yield of a representative list of such issues was 5.43 per cent on the earlier date and 6.31 per cent on the latter. In the same period Baa bonds fell sufficiently to increase yields from 6.12 to 8.07 per cent.¹ An 8 per cent yield on such bonds is sufficient indication of the developing preference for cash.

Such facts as the preceding, however, do not prove with certainty that the banking system as a whole could have escaped serious bond losses after 1929 if bank portfolios had contained only high-grade issues. Poor-quality bonds were of course liquidated first as information was received indicating impaired solvency conditions of the obligors. But if there had not been such poor issues to sell, impaired reserves of particular banks would have required an increased offering of high-grade issues. In that event the high-grade issues would have made a poorer showing in the market than they did.

Let us speculate, therefore, on the question of what the consequence would have been if in 1929 bank portfolios had consisted exclusively of high-grade issues. Would the sale of these issues by reserve-short banks have impaired their market price decisively? In any attempt to answer this question we must have clearly in mind the type of possible purchaser. Purchasers may be classified as individual investors, financial institutions like investment trusts and insurance companies, and other banks.

After the stock market collapse pessimistic opinion would be expected to pervade the minds of individual investors and

¹ See *Annual Report of the Federal Reserve Board*, 1933, pp. 234-235.

managers of investment trusts. Such purchasers would be far more willing to employ idle deposits for high-grade than for low-grade investment. But the amount of idle funds possessed by such prospective buyers was limited in the fall of 1929, and the effect of the use of their deposit holdings to acquire bonds sold by banks would have been to reduce deposits available for business use. From the point of view of the banking system as a whole the sale of bank-held bonds would reduce bonds on the asset side and deposits on the liability side. It should not be expected, therefore, that banks could find a very extensive market with individuals and financial institutions except on terms of contributing to general deflationary tendencies.

What about the possibility that reserve-gaining banks would be quick to pick up bonds offered by reserve-short banks? Much depends here on the question of the extent to which a bank failure would result in a transfer of the insolvent bank's reserve to other institutions. Often this is the result of a failure. Prior to receivership a bank generally meets adverse clearing balances for a period of time. But there may be special circumstances. In the first place, if bank failures are becoming general, deposits withdrawn from one bank may not show up as increased deposits at another bank, but rather as an increased amount of currency in general circulation. A preference for circulating currency, as contrasted with bank deposits, may thus lead to a situation in which the banks as a group cannot hold the same volume of bonds as previously. Sales of bank-held bonds to other classes might create an extensive market loss even for high-grade issues.

High-grade bonds, however, have a wide market, and it would seem that there is an easy way of maintaining a market for such issues among banks. The Federal reserve institutions might carry on open market purchases to such an extent that somewhere in the system sufficient excess reserves would be created to enable banks to absorb such issues. It would seem to make little difference which banks gained reserves as a consequence of such open market purchases.

What might deter a bank possessed of excess reserves from purchasing high-grade issues on terms of only a slight decline in price? The answer is that reserve-strong banks might anticipate a future decline in prices even of high-grade issues. For the time being many of these banks might prefer to stay in cash. To the

extent that such opinion prevailed it would be incumbent upon the Federal Reserve System to continue to increase bank reserves by open market purchases. Sooner or later the average bank, faced by a resolute reserve administration, could be expected to succumb to the pressure to put its idle funds to work. The conclusion to which all this seems to lead, therefore, is that the reserve institutions would have been in a stronger position to arrest bond-generated bank insolvencies if only member bank portfolios had been, as often they were not, of high quality.

When the point had been reached at which the deflation was getting out of hand, liquidating fundamentally good as well as bad assets, it would seem to have been incumbent on the reserve banks to be very bold in their open market purchases. Even more important than the volume of such purchases would be promptness in initiating them so that bond market deflation could not develop to the point at which preference for cash became general. But what was the policy of the reserve banks at this juncture? In general terms, reserve bank policy after the 1929 panic and until the fall of 1931 was to go only as far as would be necessary to get the average bank out of debt. Even this conservative policy was modified toward the close of 1931 as England went off gold and worries developed regarding the sufficiency of our country's gold reserves.

Why were the reserve banks indisposed to employ bold policies after the bond market panic began? A number of facts bearing on this matter have previously been adduced, one of which was the threat to the reserve banks' free gold resulting from the necessity of substituting gold for commercial paper as note issue collateral as governments tended to take the place of such paper in member bank portfolios. But we must not leave out of account the overwhelming influence of poor bank bond portfolios. The reserve banks could do little to maintain solvency for institutions that ran out of good assets.

If this reasoning be correct, the impaired quality of bond lists must be held largely responsible for the extent to which bond market, as well general economic, deflation proceeded. Poor bond lists operated to destroy the effectiveness of reserve bank open market purchases.¹

¹ We have not touched on the question whether prosperity in the decade of the twenties could have been as great if banks had refused to provide

RESERVE BANK POLICY AFTER THE FALL OF 1931

Until September, 1931, the bond market deflation expressed itself in terms of reduced prices of second grade issues rather than in a reduction of the banking system's total holdings. In the preceding two years the reduction in the volume of bank deposits was countered entirely by declining loans. As indicated previously, however, gold apprehensions in the fall of 1931 led the reserve banks to increase the cost to member banks of discounting and deposit contraction was further encouraged. On Oct. 9, 1931, the New York reserve bank put up its discount rate from $1\frac{1}{2}$ per cent to $2\frac{1}{2}$ per cent; and a week later it increased the rate to $3\frac{1}{2}$ per cent. Member bank borrowings from the reserve banks, largely required to restore balances impaired by gold shipments, reached a high of 717 million dollars on Oct. 28, and sales of bills to the reserve banks reached a high for the crisis at about the same time. To moderate the tension created by growing member bank indebtedness the reserve banks effected no significant increase in their holdings of government securities.

Not until after the passage of the Glass-Steagall Act of Feb. 27, 1932, did the reserve system feel justified in expanding considerably its open market purchases. As a result of these reserve bank purchases, member banks, by Aug. 10, 1932, were able to reduce their borrowings by about 380 million dollars despite a continued outflow of gold, and to increase their reserve balances by approximately 180 million dollars.

There will always be disagreement among authorities regarding the effects of these 1932 operations. Although the evidence will not here be submitted, the author is one of those who think the results were beneficial. The new policy, however, had been too long postponed. The bond panic was then under way, and it took more than excess reserves to induce buying of any except the gilt-edged securities. Other events also made it more difficult for beneficial results to be secured. In the political campaigns of the fall of 1932 the election of Mr. Roosevelt was generally conceded, but Mr. Hoover succeeded in convincing many conservatives that a Democratic victory would mean permanent

so much credit to borrowers with a weak solvency position. This question now emerges in the form of a demand that, to facilitate credit expansion, bank asset standards be relaxed.

fiscal deficits and eventually the addition of governmental insolvency to the overwhelming array of private bankruptcies that had been occurring.

Still other near-term obstructions to recovery were in the offing. Toward the close of the year the British pound fell rapidly in terms of dollars and produced a clearly discernible effect on prices of important export commodities of the United States. There is no clear evidence, however, that the fall of the pound (from \$3.74 in April, 1932,¹ to \$3.27 in December of that year) was deliberately promoted by the English control authorities. But the opinion seems justified that the rise of the pound was not sufficiently resisted in the spring of 1932 and that consequently the E.E.A. did not acquire enough resources to resist the pound's collapse in the fall of the year. The E.E.A. had not been formally organized in the spring and even with greater experience could not be expected to anticipate capital movements with absolute precision. Be this as it may, however, the reverberations of a falling pound upon American business were serious.

After the elections, a series of unfortunate incidents contributed to the underlying difficulties with which our banking system was confronted. In the pre-inauguration months of 1933 the Pecora investigations, particularly those related to Mr. Wiggins of the Chase National Bank and Mr. Mitchell of the National City Bank, contributed, rightly or wrongly interpreted, to shake confidence in the integrity of our most prominent bankers. The publication in the newspapers early in 1933 of banks that had obtained R.F.C. loans, the consequence of the passage by Congress of an infamously demagogic act, operated to increase runs and deposit withdrawals against banks known to have received such loans. The R.F.C.² thus became an instrument of panic, instead of an agency of succor, and the Federal

¹ Monthly average of daily (noon) buying rates for cable transfers in New York.

² The bill creating the R.F.C. received the President's signature Jan. 22, 1932. Its resources were to be derived from a capital stock subscription by the United States Treasury of \$500,000,000 as well as from the issue of its notes, bonds, or other obligations. Its general purpose was to make advances to enterprises fundamentally sound but threatened with credit withdrawal. Fundamentally, the law meant the substitution of government credit for that of the enterprise succored. Certain other government credit agencies may receive advances from the R.F.C.

government virtually took upon itself the role of a destroyer of confidence. But such partisanship in politics is a usual fruit of severe depressions.

By February, 1933, a real currency panic had developed. "Between the early part of February and March 4, money in circulation increased by \$1,800,000,000, of which \$1,430,000,000 was in Federal Reserve notes and \$320,000,000 in gold and gold certificates, and at the same time \$300,000,000 of gold was withdrawn through earmarking."¹ To permit banks suffering heavy withdrawals to make necessary readjustments governors of various states declared banking holidays. The effect of these acts was to increase currency demands upon banks in other states, partly for the pay-roll requirements of national enterprises, as well as because of the destruction of confidence in banking solvency. Federal reserve banks observed state holidays and finally closed on Mar. 4. On Mar. 6, President Roosevelt issued a proclamation under the authority of the "Trading with the Enemy Act" of Oct. 6, 1917, so that every bank was closed except for such transactions as might be authorized by the Secretary of the Treasury.

The new administration's first task, therefore, was to provide for the sound reopening of banks. This much was certain. But what other banking and monetary measures must follow? The Glass bill, intended principally to prevent a repetition of improper security operations by deposit banks, and containing other reforms of an omnibus character, could not be permanently shelved. There was also considerable legislative sentiment for a complete shake-up of the Federal Reserve Board, as well as demands for the Federal guarantee of bank deposits. Of principal interest, however, was the question whether the incoming administration would content itself with purely banking legislation. Would it regard monetary reform as fundamentally significant? Before inauguration the rumor was growing that a change in the gold content of the dollar was intended and that possibly a dollar of variable gold content would be substituted for that of a fixed weight.

¹ *Annual Report of the Federal Reserve Board*, 1933, p. 8.

CHAPTER XXXI

THE 1933 COLLAPSE OF THE BANKING SYSTEM AND THE BANK-REOPENING LEGISLATION

THE DETERMINATION OF "SOUND" BANKS

After the induction of the Roosevelt administration in March, 1933, the immediate task was to provide for the reopening of the country's banks. The nation could not get along indefinitely with currency unobtainable against bank deposits save in pressing circumstances and under special regulations of the Treasury.

The general technique of reopening it would be necessary to follow was fairly clear from the beginning to supervisory experts. It first had to be determined which banks would be allowed to reopen; and, second, provision must be made whereby such banks could obtain sufficient circulating currency to meet all legitimate demands as well as to be secure against future panicky withdrawals. With respect to the problem of reopening the banks to regular business the authorities would have to depend upon the certification of the various examining authorities as to the soundness of each particular banking institution. Banks regarded as fundamentally solvent, but illiquid as a result of the panic, presumably would be given permission to resume operations. Banks not yet in "depositors' money" but with an impaired capital might also be allowed to reopen under condition that measures would later be undertaken to provide sufficient capital. Modifications of general rules would of course be indicated by such special considerations as long-term trends in the condition of the bank or of the business of the community it served.

Difficulties of carrying through such a formula, however, resulted from the facts that, first, the solvency condition of a bank is not entirely capable of categorical determination; and, second, intent of a Congress prescribing general rules could easily be nullified by the policies of the examination agencies. The value of a bank's assets, particularly in a panic situation, varies according to opinions of not-infallible appraisers. Formal rules

could not be laid down distinguishing with exactness between mere illiquidity and probable future loss. There was also undoubtedly much truth in the common statement that, no matter what the intent of Congress, final decision would rest with the examining authorities.

The general question in the spring of 1933, however, as it was presented to Congress, was that of liberality in reopening procedure as contrasted with strict conservatism. Against a policy of liberalism was the opinion the country had far too many banks even before the banking holidays and that a subsequent failure of some of these would destroy the confidence it was hoped would be completely regained. In estimating the importance of this factor, however, allowance might be made for the tendency of examiners to be biased in the direction of strictness. It is perhaps true that the record of examiners with their superiors is far less seriously impaired by writing down assets later recovered than by failing to note loss tendencies at an early date.¹ Then, again, there may be an intangible security against loan losses resulting simply from the character of the borrower that examiners have not the facilities or, perhaps, the training to evaluate. On the other hand, there is little in favor of a loan the examiner can discover that is concealed from the banker. Examiners seldom criticize bankers for excessive conservatism. Undoubtedly in practical examination much depends on the confidence of the supervisory authorities in the skill and integrity of the management. In periods of general deflation, however, reputations of individual bank managements always suffer some degree of unmerited impairment, just as in booms reputations are inflated.

Also important was the question whether examining authorities would be able to find enough solvent banks to certify to service particular communities adequately. In many sections of the country failures had already so heavily reduced the number of available depositories that makeshift arrangements, such as broker encashment of checks for commissions, had been devel-

¹ As near as the writer can ascertain, an examiner's record is not impaired in the slightest if the criticized bank makes heavy recoveries on charge-offs. It seems only necessary that there be a good "technical" reason for the charge-off, such as failure of a borrower to effect the promised reductions, to liquidate the line at periodical intervals, to avoid an impairment of his liquidity or networth position.

oped. If adequate facilities were not provided an increased demand for county- or state-wide branch banking would be stimulated, as also unique provisions for tellers' windows and for branches open one or two days each week.

Should there be any general reopening except with accompanying legislation providing for a Federal guarantee of the deposits of certified banks? Despite the failure of various state insurance systems, despite also the general tendency of authorities to accept as valid the classical objections to a guarantee system, the deflation had changed opinion about this question considerably. It was recognized in increasing measure that a Federal system of insuring deposits could be set up in such a way as to avoid many of the defects of defunct state systems. Perhaps insurance of deposits could be denied nonmembers of the Federal Reserve System, or the competition for deposits by weak institutions, whose appeals for deposits would be strengthened by the fact of the existence of a guarantee system, could be subdued by such devices as controlling rates of interest paid to depositors.

THE QUESTION OF EMERGENCY CURRENCY

Under what conditions should banks that were reopened be permitted to obtain emergency currency? Everybody agreed that the conditions under which bank notes could be issued and obtained by reopened banks would have to be relaxed. The question was how, by whom, and under what conditions. Some advocated that individual banks, at least the national banks, be authorized to issue notes against a wider variety of securities than merely government bonds. Others held for permission to banks to organize associations for the pooling of assets against which notes could be issued. This latter device carries back to the makeshift provisions of the Aldrich-Vreeland Act of 1908, passed to provide relief in the panic following 1907. Still others contended that it would be best to relax the rules of rediscounting and permit the reserve banks to issue Federal reserve notes against any sound assets acquired in the process.

THE PROBLEM OF STRENGTHENING CAPITAL STRUCTURES

Under any plan that would avoid carrying deflation too far it would be necessary to reopen institutions which were not yet in "depositors money," but whose capital ratios were inadequate.

It seemed to most experts essential that arrangements be made whereby the R.F.C. should be permitted to subscribe to the capital of such banks without having its claims take precedence over deposits. It was equally clear, however, that government capital should be given priority over old common capital both in dividends and in principal repayments. Since, also, certain state laws prohibited the issuance of nonassessable capital stock, and since the R.F.C., for instance, could not be expected to take the risk of subscribing to assessable stock, it was soon discovered that government funds would have to be offered in such situations for capital notes or debentures instead of for preferred stock.

Although there is no doubt but that the closing of the country's banks had been anticipated in many quarters and that different interests had devised careful plans for reopening, we must not minimize the confusion that reigned in Washington during the period of the inauguration. It was not so easy to select from the various plans as later events might suggest. There were only a few days to effect reconciliations among plans as well as to determine just how comprehensive the immediate legislation should be. Then again the administrative problem of determining sound banks was terrific. To ease the strain upon the supervisory authorities, as well as to lessen the likelihood of mistakes, it was suggested in some quarters that banks be reopened at different times; so that those regarding whose fundamental soundness there was little doubt would be opened first; thence those which ranked second in degree of soundness; and so on. It was soon perceived, however, but not without stormy argument, that such procedure would "mark" the institutions authorized to reopen as of doubtful solvency. In this way the development of public confidence in the reopened institutions might be impeded.

THE EMERGENCY BANKING ACT

With this brief outline of the problems of reopening, we may next inquire as to what was done. The Emergency Banking Act became law on Mar. 9, 1933. The President immediately issued a proclamation extending the bank holiday indefinitely. Licenses must be secured, therefore, from the appropriate authorities in order that the closed institutions could resume business. On Mar. 10 the President conferred upon the Secretary of the

Treasury power to license member banks of the Federal Reserve System found to be in good condition to conduct a usual banking business except for the paying out of gold and supplying currency for hoarding. Similar procedure was employed in the case of state nonmember banks. On Mar. 11, the Federal reserve banks were authorized to resume all banking functions except, as in the case of member banks, the paying out of gold and satisfying currency hoarding demands. "On the same date it was announced that on March 13, banks in the 12 Federal Reserve bank cities would be reopened, on March 14 banks in approximately 250 other cities having recognized clearing houses, and on March 15 banks in other places."¹ Reopening thus proceeded on a locational basis and in such a way as to avoid stigmatising the late openers as unsound.

How were these banks to be able to meet normal currency requirements? From the point of view of the individual member bank this was the problem of securing permission to discount with the reserve banks on the security of a wider variety of assets than were previously authorized by statute. Banks with a sufficient balance at the reserve banks or banks in a position to increase their reserve balances² (and if they were in no position to do so they presumably wouldn't be permitted to resume business) could obtain currency by drawing against the reserve banks. Section 402 of the Emergency Banking Act accordingly amended section 10b of the Federal Reserve Act so that any reserve bank, under rules to be prescribed by the Federal Reserve Board, might make advances to a member bank on its time or demand notes provided only that such notes were secured to the satisfaction of the reserve bank. Such notes, as distinguished from those whose security brought them within the earlier eligibility provisions of the reserve act, would bear interest at a rate of 1 per cent in excess of the highest rate in effect at the time of the discount.

How could the reserve banks obtain the requisite currency to meet a possible large demand? Of course it was expected that there would be a considerable flow of currency back to the banks from the general circulation. But to assure the return flow confidence had to be created in the ability of the reserve banks to provide such additional currency as might be required under

¹ See *Annual Report of the Federal Reserve Board*, 1933, p. 14.

² By discounting, selling assets, or forwarding cash.

any circumstances that should prevail. Accordingly, section 18 of the Federal Reserve Act, the section that provided for the issuance of Federal reserve bank notes, was amended so that these notes could be obtained by the reserve banks from the Comptroller of the Currency on the deposit of any notes, drafts, or bills acquired under the authority of the act, as well as, under previous law, on the security of government obligations. The amount of notes obtainable on nongovernment collateral would be 90 per cent of the value of such paper. Federal reserve bank notes, instead of Federal reserve notes, were utilized because such notes required no gold reserve, and the previous gold run had indicated the necessity of gold conservation. Their issue had been authorized by the act of 1913 in order to take the place in the circulation that might be vacated by the retirement of national notes to an extent that would create a currency famine. Readers should not confuse this Federal reserve bank note with the Federal reserve note authorized by section 16 of the Federal Reserve Act.

Under these provision, the power of a bank to acquire notes to put in circulation was as broad¹ as its holdings of sound assets, and if the value of the assets possessed by the bank was not considered adequate the bank should not have been reopened. At the same time, there was some recognition of the fact that strictness in opening the banks might create hardships for individuals or enterprises in particular localities. The Emergency Banking Act accordingly provided that the reserve banks under certain conditions might make direct advances secured by United States obligations.²

What was done about strengthening the capital structure of banks that, although of impaired net worth, were regarded as sufficiently sound to reopen? As indicated above, provision was made whereby national banks (state laws could provide similar powers to state banks) might issue preferred stock. The Secretary of the Treasury might request the R.F.C. to

¹ Until the emergency discount provisions should lapse "after March 3, 1934 or after . . . such additional period not exceeding one year as the President may prescribe."

² As indicated previously, such a provision is contrary to the basic principle of the reserve act that the reserve banks, except in open market operations, should not deal with other than member banks. But in June, 1934, the reserve banks were authorized to supply working capital to industrial and commercial enterprises under even broader powers.

subscribe to this stock. Of course, it was expected and desired that in many instances this share capital be locally provided so as to save the resources of the R.F.C. Failure of local capital to come forth in the expected manner might result in the liquidation of the bank. By another statute, enacted Mar. 24, 1933, provision was made for the substitution of debentures for preferred stock as a means of escaping the double liability on stock capital.

What was to be done with banks not authorized to reopen? In the case of national banks, a conservator could be appointed by the Comptroller of the Currency to take charge of the affairs of the bank. During the period of conservatorship, the bank, through the good administration of the conservator or by obtaining new capital, might get in a sufficiently good condition to be turned back to its board of directors. Or it might be merged with a solvent institution. Then, again, it might be prepared for liquidation in such manner as to preserve as fully as possible the rights of depositors and stockholders. During the period of conservatorship proceeds of new deposits might be segregated from the other assets of the bank. Did the Emergency Banking Act provide for the Federal guarantee of bank deposits? In this latter matter it was decided to await the expected enactment of the omnibus Glass bill, a bill which in modified form had been claiming attention for several Congressional sessions, and which finally became the Banking Act of 1933 on June 16. It is here necessary to note that the provisions already cited enabled reopened banks to maintain public confidence for a few months, at least, without such legislation.

RESULTS OF THE REOPENING PROGRAM

How successful was the bank-reopening program that was adopted? By Apr. 12 the resources of the member banks that were licensed represented about 90 per cent of the resources of all member banks. During the remainder of the year arrangements were made to license still more banks. Undoubtedly some banks that secured licenses should never have been permitted to reopen and continued to be weak spots in the banking structure. It was always the author's opinion, however, that in the marginal cases the benefit of the doubt should be given the bank desirous of reopening. The reasons for this opinion have been given in part in the above paragraphs relating to

examination bias (no adverse criticism is intended by this term). In addition, the passage of time permitted many institutions to provide themselves with more capital and better management.

From the point of view of public reaction the reopening was a great success. "Money in circulation, which reached a peak of over \$7,500,000,000 early in March, declined by about \$1,250,000,000 during the remainder of that month and by about \$2,000,000,000 by the end of August."¹ "By the middle of April deposits at the weekly reporting member banks had increased by about \$1,000,000,000 and before the end of June the increase amounted to more than \$2,000,000,000."²

These facts have been interpreted to demonstrate that it was unnecessary for deposits to be guaranteed by a Federal agency in order to regain public confidence. This, of course, is not to argue one way or the other with respect to the merits of the guarantee system that later was set up.

SUCSESSES AND MISTAKES

The technical question of the agency through which emergency currency was to be provided was undoubtedly answered correctly. Voluntary associations like those provided by the Aldrich-Vreeland Act of 1908 would have represented too patchwork a plan.³ Furthermore, some contribution to confidence was certainly provided by the fact that the reserve system would keep control of new note issues.

In the writer's judgment, the greatest error in the entire proceedings lay, as indicated above, in the capital-strengthening provisions. The ability of a bank to build up necessary reserves is not improved when new funds are provided whose dividend requirements exceed the earnings that could be realized through their safe investment. Some banks found their earnings position worsened as a consequence of the recapitalization provisions.

¹ See *Annual Report of the Federal Reserve Board*, 1933, p. 14.

² *Ibid.*, p. 15.

³ During the period of closure there was some indication that currency requirements would be met by permitting banks of various clearinghouse associations to issue scrip. Members of the clearinghouse would agree to accept this scrip. Here lay the difficulty, however, that the scrip of one locality would not be acceptable in payments to another locality. To guard against this danger a New York State Scrip Corporation was organized under the sponsorship of the New York State Banking Board. Local scrip, under certain conditions, could be converted into this scrip. Luckily it proved unnecessary to rely on the facilities of this corporation.

Others undertook risky investments and became problem cases later, as, for instance, after the terrific decline in bond prices in the spring of 1937. It did not seem to occur to Congress and the administration that a capital commitment could be distinguished from an actual grant of capital funds.

RELATION TO MONETARY REFORM

Was the administration to content itself, in the realm of finance, with these reforms? Conservative authorities argued that, after the success in reopening banks, further monetary measures should be eschewed. These argued that, outside the realm of banking, the business depression had reached its trough. They also felt that the necessary reflation of values could be achieved most effectively by the "velocity" instead of by the "currency volume" route and that restored confidence in the solvency of the country's banks was the tonic necessary to produce a sound velocity recovery. Now and then it was pointed out that a year or so earlier England had the opportunity to go haywire with inflation but, instead, refrained from giving any hint of radical intentions. As a result, so it was often contended, the pound regained confidence and capital flowed toward England, so that London, without engaging in inflation, gained the advantages and avoided the dangers of an inflationary policy.

Such procedure, however, was not to be policy in this country. Even during the banking holidays, as it now appears, the way was being prepared for radical inflationary measures (referring to restrictions on the paying out of gold by member bank reserve banks) so that eventually this country ran the entire gamut of mechanistic schemes to restore a price level "fairer to the debtor." We were destined to witness aggressive (not merely defensive) depreciation of the dollar in gold and in the foreign exchanges, heavy monetization of silver, deliberate fiscal deficits, wasteful expenditure of the proceeds, and the reorganization of the structure of the Federal Reserve System for the sake of assuring an abnormally low interest rate structure.

REFERENCES

- Annual Report of the Federal Reserve Board*, 1933.
C. C. COLT and N. S. KEITH, *28 Days a History of the Banking Crisis*.
J. D. PARIS, *Monetary Policies of the United States 1932-1938*.
H. P. WILLIS, "The Banking Act of 1933—An Appraisal," *American Economic Review*, supplement, March, 1934, pp. 101-110.

CHAPTER XXXII

GOLD REVALUATION

ALTERNATIVE MONETARY POLICIES AFTER 1933

It has been indicated that, after the successful reopening of the banks in March, 1933, one of two monetary policies was open to the administration. The first policy was that of monetary conservatism; to defend the old gold dollar and to resist radical suggestions for expanding the credit volume so that a reflation of prices might result from strengthened confidence in the dollar. Under this scheme the mechanistic factor of improvement would be the velocity of circulation. The second policy would be to produce by one or several measures a considerable expansion in the monetary circulation even though such a course might necessitate abandonment of the dollar of previous gold content.¹

In favor of a conservative policy was the fact that a large measure of confidence had already been reestablished by the skill that had been displayed in reopening the banks. Believers in the principle of the Federal insurance of bank deposits were in a position, furthermore, to argue that in a few months confidence in the security of bank deposits would be further strengthened by the inclusion of guarantee provisions in the Glass bill. Also in support of a conservative policy was the contention that a reflation produced by reviving confidence, a velocity expansion, in other words, does not raise excessive fear, especially among bondholders, of a destruction of the purchasing power of the funds they lend. In past expansions velocity never got out of hand unless it was accompanied or preceded by a rapid growth

¹ The Warrenites seemed to believe the inflation factor of greatest importance would be a reduced weight of the dollar itself. To them, such a reduction was significant without reference to its effect on the currency volume.

Professor Warren, in 1933 head of the department of Agricultural Economics at Cornell University, became one of the President's monetary advisers during the period under consideration. His views were widely discussed while the dollar was being prepared for the status given it by the Gold Reserve Act of 1934.

in the currency volume. Neither would an inflation-produced economic revival be likely to be as enduring as one that did not require unique monetary action.

Be this as it may, however, it was agreed everywhere that an improvement in underlying economic conditions was necessary if reopened banks were to maintain their solvency. Their assets had to be evaluated in numerous instances on the theory that they were "going" institutions, that, in other words, the bulk of their assets would not have to be liquidated at existing price levels. Although the passage of a deposit insurance bill was expected, it was not clear to anyone how the insurance agency could take under its wing, without terrific cost, institutions fundamentally unsound. From any point of view it was essential that the new administration make a prompt decision on the fundamentals of a monetary program and adjust other measures consistently thereto.

THE WITHDRAWAL OF GOLD FROM GENERAL CIRCULATION

The policy that was adopted took us off the old gold standard, so that with the enactment of the Gold Reserve Act of January, 1934, the Treasury price of gold was increased from \$20.67 to \$35 per ounce. A series of measures were utilized to drive the country off the gold standard of earlier vintage. These measures may be classified as follows:

1. Those which made gold unavailable for the internal circulation.
2. Those which placed the export of gold under governmental control.
3. Those which depreciated the dollar (for the time being, at least) in terms of the leading foreign monetary units.

All of these measures, of course, are related, so the advantage of this classification is only expository simplicity.

The withdrawal of gold from the internal circulation began with the banking holiday, at which time the banks were prohibited from paying out gold. The President's proclamation of Mar. 6, 1933, read as follows: "During such holiday . . . no such banking institution or branch shall pay out . . . or permit the withdrawal or transfer . . . of any gold or silver coin or bullion or currency." Although the Secretary of the Treasury was empowered to permit banks to perform necessary banking

services, the Treasury regulations did not authorize conversion of deposits into gold coin. The Emergency Bank Act of Mar. 9, 1933, authorized¹ the Secretary of the Treasury to require "all individuals, partnerships, associations and corporations to pay and deliver to the Treasurer of the United States any or all gold coin, gold bullion, and gold certificates owned. . . ." On Apr. 5 an executive order nationalized gold by requiring all gold to be delivered to the Federal reserve banks, either directly or via member banks. On May 1, another executive order provided penalties for gold hoarding. In his fireside chat of May 7 the President stated that, since there was not enough gold to pay all holders of gold obligations, none of the holders should be paid "in the interest of justice." On June 5, 1933, Congress passed an act in which it was declared to be contrary to public policy to include in contracts provisions requiring specific payment in gold coin. In this act the gold clause was abrogated in all public and private contracts, past and future, and all forms of United States currency, including Federal reserve notes, Federal reserve bank notes, and national bank notes were endowed with complete legal tender power.² On Feb. 18, 1935, the United States Supreme Court upheld the constitutionality of the act abrogating the gold clause.

On Aug. 29, 1933, earlier provisions to prevent gold hoarding were made more stringent by executive order. All holders of gold coin or bullion or certificates in excess of \$100 were required to file returns and explain why their necessities could not be met by using other forms of currency. On Dec. 28, 1933, an executive order was issued providing that such returns should not be construed as a license to hold gold and that all such gold, with certain exceptions, must be delivered. On Jan. 15, 1934, the Secretary of the Treasury set Jan. 17, 1934, as the expiration date for the delivery of gold.

¹ Section 3.

² Under the terms of the act of June 5, 1933, even minor coins are lawful "money" in any amounts and for all purposes. The earlier limitations on the legal tender power of fractional currency were apparently removed. Although Federal reserve notes could be counted as part of the legal reserve against Federal reserve deposits, they have not been thus employed in practical operation. To secure Federal reserve deposits by Federal reserve notes would amount to backing one liability of the reserve banks with another. See *Federal Reserve Bulletin*, July, 1941, p 630.

CONTROL OF GOLD EXPORTS

To deny gold for internal circulation is not sufficient, as we have learned in such discussions as those concerning Indian currency problems, to take a country off the gold standard. The crucial question is whether gold can be obtained in fixed amounts by foreign holders of American credits. Here, again, a series of measures followed the banking holiday. The proclamation of the holiday itself placed an embargo on gold shipments. The Emergency Banking Act gave the President emergency powers over foreign exchange transactions and gold shipments. On Apr. 13 a license was given for the export of \$600,000 of gold to Holland, but on Apr. 18 the issuance of licenses for gold exports was discontinued. The following day the Secretary of the Treasury announced that "no further licenses would be granted . . . for the purpose of supporting the dollar in foreign exchange." On Apr. 20, 1933, an executive order prohibited the export of gold or its earmarking for foreign account, except that gold previously earmarked might be exported.

DEPRECIATION OF THE DOLLAR IN THE FOREIGN EXCHANGES

The above measures would be expected to produce a decline in the foreign exchange value of the dollar, at least as far as foreign gold currencies were concerned. The Treasury advice of Apr. 19, 1933, and the embargo of Apr. 20, certainly made it clear that exchange depreciation of the dollar was not regarded as detrimental to our interests. But to what extent would dollar depreciation be encouraged? For a while the expressions of the President seemed to indicate that no greater depreciation was desired than that amount which would facilitate a new alignment of the important currencies of the world. In his "fireside chat" of May 7 the President stated that the conference to be held in London early in July, and for which much preparatory work had already been done *in re* the problem of currency stabilization, "must succeed." The President declared "we have each of us pledged ourselves to the best joint efforts to that end." Such declarations of course did not preclude efforts to depreciate the dollar further in the exchanges. A certain degree of jockeying might be expected so that the foreign exchange value of the dollar, at the time of the conference, would not be so high as to

encourage stabilization at a level inimical to the interests of American exporters. But there were limits to the extent to which such jockeying would be expected to be effective.

INFLATIONARY SENTIMENT IN CONGRESS

In the meanwhile, however, the inflationary temper of the American Congress had been indicated by the passage, on May 12, 1933, of the Thomas Amendment to the Agricultural Adjustment Act. This was the so-called "inflation bill." Under the terms of this act the President was authorized to instruct the Secretary of the Treasury to enter into negotiations with the Federal reserve authorities to require the reserve banks to increase their holdings of United States government securities by 3 billion dollars. If such negotiations should prove fruitless, the Secretary of the Treasury could be instructed to issue an equivalent amount of greenbacks for the redemption of the floating debt of the government. Lastly, the President was authorized

By proclamation to fix the weight of the gold dollar . . . and also . . . the weight of the silver dollar . . . at a definite fixed ratio in relation to the gold dollar at such amounts as he finds necessary from his investigation to stabilize domestic prices or to protect the foreign commerce against the adverse effect of depreciated foreign currencies, and to provide for the unlimited coinage of such gold and silver at the ratio so fixed. . . .

In no event, however, was the reduction in the weight of the gold dollar to be more than 50 per cent of its former weight.

It is probable that the passage of the Thomas "inflation bill" had considerable to do with the future monetary thinking of the President. He may also have been greatly influenced by the widely held opinion that it might be difficult to hold the price and output gains of the second quarter of 1933. There was evidence that a considerable portion of the gains should be attributed to the action of industrialists in expanding output before production should become more costly under the N.I.R.A. codes.¹ In other words, a certain measure of existing output represented a transference to the present of activity that normally

¹ The National Industrial Recovery Act was approved June 16, 1933. Its central feature was to require different branches of industry to draw up codes under which, it was hoped, wage scales and, consequently, general purchasing power would be increased.

would be postponed to the future. We know, furthermore, that certain somewhat unique monetary doctrines were being poured into the President's ear by advisers who believed that the time had not yet come when prospects of further inflation should be withdrawn from the calculations of businessmen in respect to such matters as continuing to stock up in advance of necessities.

ACCELERATING THE DOLLAR'S DECLINE

As a result of these and other circumstances the President came shortly to harbor the opinion that the time was not ripe to proceed further with the definite stabilization of world currencies. On July 3 the President's message to American delegates at the London Economic Conference rejected the monetary program proposed by the gold bloc countries.¹ In brief, the President's position was that discussion of exchange stabilization would be premature until the American price level had been lifted to a point at which it could be left for a "generation." On the part of foreign nations, it was implied, further progress was required in the direction of balancing budgets. It would not be wise, the President contended, to provide monetary stabilization until other financial readjustments had been achieved.

By this time the dollar had undergone considerable depreciation in terms of gold currencies as well as in sterling exchange. In June, 1933, the pound (average daily cables in New York) was worth \$4.13, a measurable decline of the dollar from January, when the pound averaged \$3.36. Still, the dollar had not depreciated (that is, the pound had not appreciated in dollars) sufficiently in the opinion of the administration. Devices were shortly to be employed to accelerate its further decline. On Aug. 29, 1933, an executive order authorized the Treasury to receive all newly mined domestic gold for sale either to domestic licensees or to foreign purchasers. The price at which this gold would be received was equal to the highest price obtainable in any of the world's free gold markets. By Sept. 20 the price of gold (determined by the depreciation of the dollar in gold currencies) was \$32.28 per ounce. On Oct. 25 the R.F.C. was prepared to undertake the work of purchasing gold at home and abroad. The prices quoted were lifted regularly until, on Jan.

¹ Including France, Belgium, Holland, and Switzerland which, at that time, were fearful of the consequences of gold inflation.

15, 1934, the bid was \$34.06 per ounce. It is to be noted that, in its purchases of domestic gold, the R.F.C. price referred only to new production. Old gold had to be turned in at the former price of \$20.67 per ounce.

THE GOLD RESERVE ACT OF 1934

On Jan. 15, 1934, the President sent a message to Congress asking that gold be nationalized and revalued, that an exchange stabilization fund be created (out of the profits of revaluation), and that the title to all monetary gold within the United States should be vested in the government. In compliance with the terms of this message Congress passed the Gold Reserve Act of 1934 and presented it for the President's approval on Jan. 30, 1934. Briefly, its main provisions were:

1. Title to all gold held by the Federal Reserve System was to be vested in the United States. Gold transferred to the Treasury was to be paid for at the rate of \$20.67 per ounce in gold certificates to be issued for the purpose and in such denominations as the Treasury should prescribe. These certificates could not be paid by the reserve banks into circulation. But they would count as reserves against Federal reserve notes or deposits.

2. No gold was hereafter to be coined, and no gold coin was to be paid out, by the United States. All gold coin of the United States was to be withdrawn from circulation, and these coins, together with any gold coin owned by the United States, were to be made into gold bars.

3. The minimum 40 per cent gold reserve required against Federal reserve notes would consist of the new gold certificates. Similarly, the 5 per cent redemption fund maintained in the United States Treasury against Federal reserve notes would be gold certificates. As before, this 5 per cent redemption fund would be counted as a part of the 40 per cent reserve against federal reserve notes.

4. Except in accordance with regulations to be issued by the Secretary of the Treasury, with the approval of the President, no currency of the United States could be redeemed in gold. Gold certificates owned by the Federal reserve banks, however, might be redeemed in gold at such times and in such amounts as the Secretary of the Treasury should believe to be necessary to maintain the equal purchasing power of all forms of United States currency.

5. The act of May 12, 1933, the Thomas inflation bill, was amended so that the gold weight of the dollar, which might be put as low as 50 per cent of its previous weight, must be lowered to at least 60 per cent of its former content. Under the terms of this section, section 12, the range of devaluation was thus fixed between 50 and 60 per cent of the former weight of the dollar. Within this range the President had discretionary power to determine the dollar's gold content.

6. Profits resulting from a decrease in the weight of the gold dollar would become a miscellaneous receipt of the United States Treasury. In the event of a future increase in the weight of the dollar the resulting decrease in the value of gold would become a loss to the Treasury, to be compensated by transfers of gold bullion from the general fund.

So far as the above provisions are concerned the amount of the devaluation of the dollar, or the upward revaluation of gold, was statutorily restricted within the 50 to 60 per cent range. There were other provisions of the Gold Reserve Act of 1934, however, which seemed to impose no restrictions on the extent to which for specific purposes, some of them very broad, the President and the Treasury could change the dollar value of gold. Thus:

7. It was provided in section 10 of the act that for "the purpose of stabilizing the exchange value of the dollar," the Secretary of the Treasury, with the approval of the President, might "deal in gold and foreign exchange and such other instruments of credit and securities as he may deem necessary to carry out the" above-stipulated purpose.

8. Out of the profits of revaluation the sum of 2 billion dollars was allocated, under the exclusive control of the Secretary of the Treasury "with the approval of the President, whose decisions shall be final and not be subject to review by any other officer of the United States." This fund, to the extent not required to stabilize the dollar in the foreign exchanges (at levels not statutorily described) might be invested in obligations of the United States government. Profits on revaluation would thus provide the resources for stabilizing the market for government securities (in anticipation possibly of a program of increased deficit spending) as well as for controlling the dollar's foreign exchange value.

Section 10 of the act thus appears to nullify the restrictions of the act of May 12, 1933, as amended by section 12 of the act under discussion, which limited the reduction in the weight of the gold dollar in the range of from 50 to 60 per cent of its former weight. Under section 10 there seems to be no limit to the price that can be legally paid for gold or foreign credit and currencies insofar as exchange stabilization is desired. An expiration date was fixed for this section, but the powers therein contained have been extended by Congress.

9. In similar fashion section 8 provided that the "Secretary of the Treasury may purchase gold in any amounts, at home or abroad, . . . at such rates and upon such terms and conditions as he may deem most advantageous to the public interest."

There was no time limit on this section and nothing except the discretion of the administration to obstruct a repetition of a gold-buying, dollar depreciation program like that conducted in the fall of 1933 and early 1934.

Section 9 of the Gold Reserve Act conveys almost identical powers to the Treasury department.

The Gold Reserve Act of 1934 may be regarded, therefore, as an act to get gold out of internal circulation; to permit the revaluation of gold, title to all of which is vested in the Treasury; so that the profits of gold revaluation may be used to operate in the foreign exchanges or the market for government securities, with some sections giving complete discretion to the administration to depreciate the dollar further in gold or in the exchanges.

On the day after the passage of the act, on Jan. 31, 1934, the President issued a proclamation by which the weight of the gold dollar was fixed as $15\frac{5}{21}$ grains, nine-tenths fine, 59.06 per cent of its former weight.¹ At this weight, the increase in the value of the Treasury's gold, as of Feb. 1, 1934, was \$2,805,512,060.87. These profits permitted the \$2,000,000,000 to be allocated to the stabilization fund and later \$645,000,000 to be employed to redeem bonds possessed by national banks securing their note circulation on July 1 and Aug., 1935,² as well as to provide for

¹ The pure gold in the dollar would thus be $\frac{9}{10}$ of $15\frac{5}{21}$ grains, or 13.7 grains. The value of an ounce of gold or 480 grains would be \$35.

² The resulting addition to national bank reserve balances at the reserve banks was eliminated by the requirement that the banks deposit sufficient funds to retire their note circulations. For an explanation of the retirement of the national bank notes, see Appendix, Chap. XXXII, Note I.

certain minor outlays, such as an advance to the reserve banks to permit the making of industrial loans, and to meet melting losses. The small amount of profit remaining went into the general fund cash balance.

Was the Gold Reserve Act of 1934 intended to put a stop to further depreciation in the gold value of the dollar? As indicated above, the Treasury was authorized to pay more than \$35 an ounce to combat either fair or unfair foreign devaluations. But even a 13.7 grain dollar was undoubtedly greatly undervalued in terms of either of the remaining gold currencies or of the off-gold British pound. Would the administration resist, however, such foreign depreciations as might seem to be required by relative purchasing powers or the direction of international movements of capital? Only the future could provide an answer to this question. On the whole, however, it is reasonable to presume that the Gold Reserve Act represented a decision to put a stop to further deliberate and aggressive depreciations.

At this point let us take stock. Was the 1933-1934 gold policy wise? Let this question be analyzed not as much in the light of later developments, but from the contemporary point of view. This will be the purpose of the next chapter.

REFERENCES

For a chronological summary of important laws and administrative pronouncements relating to gold revaluation, see:

J. D. PARIS, *Monetary Policies of the United States*.

A convenient source for the following acts is the *Annual Report of the Federal Reserve Board*, 1933, pp. 261-295.

Extension of the Glass-Steagall Act of Feb. 3, 1933,
Emergency Banking Act and the Bank Conservation Act,
Inflation bill of May 12, 1933,
Banking Act of 1933.

See the *Annual Report of the Federal Reserve Board*, 1934, for summaries of that year's important monetary acts of Congress, pp. 46-51.

See *Federal Reserve Bulletin* for February, 1934, for the Gold Reserve Act of 1934 and the President's proclamation and Treasury regulations issued in compliance therewith.

CHAPTER XXXIII

THE WISDOM OF THE 1933-1934 GOLD POLICY

THE APPROPRIATE METHOD OF ANALYSIS

The 1933-1934 reduction in the gold content of the dollar was the first this country had undertaken since 1837. The degree of devaluation, furthermore, was admitted even by most of the proponents of the action to be greater than necessary to establish a purchasing power parity between the dollar and important European currencies. For these and other reasons the wisdom of the 1933-1934 gold measures must be examined critically.

To establish conclusions with finality would necessitate the presentation of a mass of statistical and factual evidence. While such a presentation might be worth while at this time, it is doubtful if it would have more than a purely historical importance. The 1933-1934 situation is not likely to be reproduced shortly. The value of a study of episodes of this sort is largely that of providing the student with an understanding of the proper methods of analysis. First of all, then, we shall raise the question of the appropriate method to employ.

Is there any other way to begin than to differentiate between the forces that would be unleashed by the reduction in the gold content of the dollar? Gold revaluation produces not one, but several, monetary effects, and each must appraised separately from others. Certainly, in the study of medicine, a pill of several ingredients would thus be analyzed. If this were not the procedure no allowance could be made for the varied needs of different patients. At any rate, the only alternative method would be the simple one of historical analogy and of long-run statistical deduction, on the basis of which it might, or might not, be concluded that changes in the currency value of gold have invariable consequences.¹ The difficulty with such a

¹ Since the United States had not changed the currency value of gold since 1837 it may be argued that experience in this country was not adequate for the application of the method of statistical analogy. Certain devalua-

method, however, is that no two periods covered by the statistical data are ever exactly similar. On some occasions gold production might be enlarging at a time the dollar was below its real worth in the foreign exchanges. On other occasions the opposite situation might prevail. In some situations increasing gold production, or enhanced gold stocks, might find the gold reserves of the banking system high; but, under other situations, low. Again, different periods would vary from the point of view of the probable response of speculative interests to an easier bank reserve position.

Through what channels, then must devaluation of the dollar operate? To list the more important we have the following:

1. To reduce the dollar's gold value would lower the value of the dollar in terms of foreign currencies unless the gold value of these foreign monetary units were similarly reduced.

2. To lower the gold content of the dollar might increase the banking system's dollar reserves and permit more liberal credit policies to be undertaken. If title to the banking system's gold, however, should be taken over by the Treasury, as it was in this country, the result would be that outlined in (3).

3. Gold revaluation could be employed to increase the ability of the Treasury to finance a program of public works spending or to provide it with funds to stabilize the market for government securities issued to obtain the funds for such operations. The profit obtained by the Treasury might also be utilized to prevent undesired fluctuations in the foreign exchange value of the dollar.

4. To reduce the dollar in gold, or, conversely, to raise the dollar value of gold, would tend to stimulate gold production as well as to encourage the shipment of gold to this country from foreign nations.

5. Dollar devaluation, even though processes were not thought out logically, might produce an expectation of higher prices ahead and induce a wave of buying. This was the "psychological" argument. It was based on the theory that what people do believe is often more important than what should be expected by rational human beings.

tionists contended, however, that what was important was the stock of gold in relation to the supply of other products and that an increase in the monetary value of gold was equivalent to an enlargement of the physical stock of gold, and vice versa.

THE FOREIGN EXCHANGE ASPECT OF THE PROBLEM

Each of the preceding aspects of the problem will be considered. If we turn our attention first to the foreign exchange problem we may begin by asking whether special circumstances in the spring and summer of 1933 required the dollar to be lowered in terms of francs, pounds, guilders, and other foreign currencies. In our opinion there is little question but that, early in 1933, the dollar was too high particularly in terms of pounds: In January, 1933, the pound averaged only \$3.36. Students of the British Equalization Fund¹ agree that temporary and technical factors were largely responsible for the low levels then reached by the pound. During the early part of 1932 the control authorities probably did not combat strenuously enough the inflow of refugee foreign capital and the tendency of the pound to strengthen in the exchanges. If the pound-selling operations had been heavier more gold and foreign exchange would have been accumulated to protect the pound against the dip that was experienced early in 1933. When the pound began to weaken rapidly in that year the authorities had not accumulated sufficient foreign exchange to combat its falling tendencies effectively. It may be true, furthermore, that the British monetary administration, in anticipation of the successful consummation of a stabilization agreement at the London conference to be held in July (1933), believed it good policy to enter the conference with a low pound. England, in the opinion of competent observers, had suffered grievously from an overvalued pound in the years prior to 1931, and financial authorities of that nation may have feared that the delegates of the United States would insist on the restoration of the historic \$4.86 pound unless circumstances indicated clearly the impracticability of such a rate. If these were the tactics of the British authorities, their hand was overplayed, as previous discussions have indicated.

Regardless of the underlying reasons for the dollar's foreign exchange position, there is no denying the deflationary influence exerted on the prices of many of our important articles of export by the low pound. To combat this deflationary influence one of two policies was suggested. This country, under the first policy, could bide its time until the July conference and insist

¹ See N. F. Hall, *Exchange Equalization Account*, pp. 52-53.

upon fair exchange rates at the conference. Whether such a policy would result in a higher gold value for the pound (or a lower gold value for the dollar) could not be determined before the conference. The other policy would be for this country to take active steps before the conference to depreciate the dollar in the exchanges; and, if a satisfactory situation was not reached by the time of the conference, to refuse to proceed with stabilization negotiations. This latter policy, as indicated in the previous chapter, was the one that was followed.

It was obvious to advocates of aggressive devaluation that England and other nations might match our devaluation by similar measures of their own. Each devaluing country might adopt the policy of depreciating its monetary unit in gold to a greater extent than its purchasing power required as a means of forestalling any damage that might result from the later adoption of a similar policy by other nations. If matters should develop in this way a competitive struggle to devalue might ensue with the ultimate consequence of building up the monetary value of gold reserves everywhere to a point that would defy ability to avoid extreme price inflation at some future point of time. What, then, were the chances that aggressive devaluation by this country would drive the gold currencies off the gold standard and incite the sterling countries to struggle to match or even to exceed our depreciation efforts?

Here the controversy entered the realm of conjecture and speculation. It was by no means certain that what later transpired was overwhelmingly probable or would have occurred under slightly altered conditions. Confidence of American devaluationists that retaliation abroad would not be serious was provided in part by the dread of inflation that prevailed in France and Germany and other continental nations as a consequence of their war and postwar inflations. Then, again, some of the American devaluationists believed that the upward movement of prices in the United States would be so rapid and so closely proportionate to the reduction in the dollar's gold content that the necessity of retaliatory devaluations by other countries would be largely destroyed. This, indeed, was exactly what the most ardent devaluationists in America said they anticipated—a rapid increase in the American price level without continued exchange advantages in foreign trade. Any such rapid rise in American

prices, these asserted, would reduce the burden of domestic dollar debts, assist domestic industrial recovery, and enable this country to withstand any kick-back that might later develop in the foreign trade of the country.

Against such speculations, however, there was much to offer by way of objection. As far as the foreign exchange process was concerned, prices in America could rise as a consequence of devaluation only to the extent that our export industries were given a competitive advantage over those of other countries. But, under this condition, would not retaliations by foreign nations be inevitable? Perhaps the reluctance of foreign countries to meddle with inflation after earlier experience would prove to be a serious deterrent against such retaliatory policies. But there were noninflationary means of defense that might be employed. Import quotas on American goods might be lowered; trade concessions, perhaps of a barter character, might be extended nondepreciating-currency nations; tariffs might be lifted against American importations; quarantines and a whole host of ingenious restrictions might be imposed upon already heavily shrunk international trade. The then-not-so-prominent Hull program of removing trade barriers would have to work against more serious obstacles than otherwise would be required. The mercantilistic character of the aggressive American devaluation could thus be established easily and in such a way as to predict foreign policies that would make the future market outlook for such of our products as cotton look gloomy indeed.

Readers now know that events subsequent to the 1933-1934 devaluation in the United States confirm parts of both types of expectation. Price levels rose markedly in this country, particularly from May to July, 1933, but devaluationists had to select their commodities with great care to be able to maintain that the dollar depreciated internally to a degree proportionate with the reduction in its gold content. Foreign countries did show, as expected, a decided reluctance to combat our devaluation by similar measures of their own. After the abortive London conference of July a number of nations set up the informal gold bloc under agreement to try to avoid devaluation. Exchange pressure against these countries, Switzerland, Belgium, the Netherlands, and France, continued heavy, however, so that one after another of them was forced to undertake devaluation

measures by one device or another. By the fall of 1936 the gold bloc as an entity ceased to exist. England permitted its pound to stay constantly above the March, 1933, rate with the dollar. In view of employment improvement and the armament-inspired demands for American products, however, the improved pound may not have been depreciated by its authorities. On the other side of the picture, countries under exchange pressure certainly did increase interferences with the movement of international trade, and the restoration of world commerce was thereby rendered more difficult.

As asserted previously, however, the international consequences of aggressive American devaluation were by no means predictable in 1933. But, viewing the problem from the vantage point of later developments, it is hard to condone this country's policy. It is impossible to refute the opinion that monetary pressure against France, reluctant as this latter country was to match our devaluation, goes far to explain the economic and political weakness that preceded the collapse of resistance to Germany in the Second World War. Neither can it be categorically denied that, by putting Germany under greater necessity to subject the exchange market and its foreign trade to governmental control, we contributed to the development of totalitarianism. But whatever the consequences were, they would undoubtedly have been even more damaging had it not been for the skillful work of Hull in negotiating for the removal of international trade obstructions and of Morgenthau in encouraging the tripartite agreements of 1936¹ which were intended to obviate unnecessary currency depreciations. Wiser policy, in the writer's judgment, would have been to encourage cooperative efforts at effective stabilization at London in 1933. Without threat of devaluation on our part, the dollar stood to fall in the sterling exchanges. If such efforts had failed individualistic action by this country would then have been more defensible.

EFFECT OF DEVALUATION ON BANK CREDIT POLICIES

Let us turn to the second question—whether and to what extent it was necessary in 1933 to increase the dollar reserves of our banking system. Fundamental issues are here involved such as whether, at that time, it was desirable to try to push up

¹ See Appendix, Chap. XXXIII, Note I.

domestic prices and to expand employment by credit operations. To escape controversy on this point let us assume—not conclude—that such measures should have been approved. It will also be assumed for the present that the profits of devaluation were credited (as they were not) to reserve bank surplus. If devaluation had been employed in this way the gold holdings of the reserve banks would have had a higher dollar value. Their reserves against note and deposit liabilities would be the larger.

But what was the condition of the reserve banks on June 30, 1933? On this date their total cash reserves were 3.8 billion dollars against reserve requirements for member bank deposit balances and Federal reserve notes of 2.1 billions. The excess reserves of the reserve banks were thus about 1.7 billion dollars. Complete success in drawing in gold coin and gold certificates, as required by law, would add almost 600 millions more of gold to the excess reserve account.

Let us assume, however, that the prohibition of private ownership of gold currency would result in bringing in to the reserve banks only 400 millions of this gold. The Federal reserve notes issued to member banks in exchange for this 400 millions would require a gold reserve of 40 per cent of this amount, or 160 million dollars. The balance, or 240 millions, would increase the reserve banks' excess reserve from 1.7 to 1.94 billion dollars.

How far would this 1.94 billion dollars of excess reserve bank reserves go in permitting the reserve banks to increase member bank reserves by purchasing government securities, or by discounting for member banks? This is impossible to calculate with precision because we do not know the extent to which additional Federal reserve notes might be required to accompany any deposit expansion generated in the ways suggested above. But, since "money" in circulation, on account of the panic, stood at that time at extremely high levels, it is doubtful if any increase in the circulation of Federal reserve notes would have been required. To be extremely conservative, however, let it be assumed that only half of the 1.94 billions of excess reserves of the reserve banks would be available to support enlarged member bank reserve balances.

Nine hundred seventy million dollars (one-half 1.94 billions) would constitute the minimum 35 per cent reserve for 2.77 billions more of member bank reserve deposits at the reserve

banks. If we should multiply this latter figure by 10 to determine the limits of deposit expansion at the member banks, we would arrive at the enormous figure of 27.7 billion dollars, a sum exceeding the total of deposits of member banks at the time of our devaluation. The wildest advocate of deposit expansion would not ask for a doubling of the outstanding volume of deposit currency. Revaluation of gold thus was not necessary in order that the weapon of credit expansion could be vigorously employed.

It might be argued, of course, that the reserve banks should be put in a position to provide gold to meet future demands emanating from abroad. But a definitive decision regarding the gold value of the dollar would be expected to subdue such demands. The earlier gold drain had resulted largely from apprehensions that the dollar was yet to be devalued. Much of the gold thus withdrawn could be expected to return.

EFFECT OF DEVALUATION ON TREASURY SPENDING

As a matter of fact, however, in our devaluation the title of all gold was taken over by the United States Treasury. To the extent that the monetary price of gold was lifted, the ability of the Treasury to spend without taxation or borrowing was increased. To what extent was it desirable to devalue for the purpose of increasing the power of the government to step up its spending program?

Let us assume first that the profits of gold revaluation were not to be used to create a stabilization fund (as they largely were employed) but were directly distributed in a program of enlarged public works. Such spending would be intended to increase employment and possibly to create such shortages of goods as to initiate a price advance. In essence this procedure would be the equivalent of greenbackism. It would be a means of providing the government with dollars to spend without requiring it to go in debt or obtain increased tax revenues. There is no limit except prudence and discretion on the part of the spending authorities to the amount of dollars that can thus be obtained and distributed.

Would the greenback method be as good a way of providing the government with dollar revenues for such purposes as have been indicated above? There is much to say on both sides of this question. Certainly, however, the greenback device is the more

honest and revealing. When irredeemable legal tenders are issued there is no attempt to maintain the fiction that gold is behind the new currency. But this, say the gold revaluationists, is just the point. They sometimes argue that a people will not be likely to identify an increase in the currency value of gold with a direct issue of greenbacks. They hold further that confidence in the future purchasing power of the currency will not be so greatly destroyed by mere devaluation and that uncontrollable inflation is not nearly so likely to result.

Can a country whose economy once gets adjusted to dependence on the arbitrary emissions of currency, particularly in a time of peace, expect ever to return to a balanced budget? Whatever be the answer to this question, it is never disputed that there is always great danger that deficits will continue until the monetary system is destroyed. For this reason the writer has always been one of those who have deplored the use of ingenious schemes to conceal the substance of greenbackism. When purchasing power is provided merely by a governmental mandate, and it does not make so much difference what means the government employs, the people should know the facts. Otherwise the public may be placid in the face of developing danger. Fact-concealing devices belong to an authoritative rather than to a democratic society.

Was the revaluation of gold required in 1933, however, to provide the stabilization fund with resources to be used to protect the dollar in the foreign exchanges? Here the principal fear was that the dollar could not be held at the low level reached at the time of the Gold Reserve Act of 1934. But if the dollar had not then been devalued so greatly, there would have been less need for allocating funds to stabilization authorities. Moreover, as we have seen in the case of the British E.E.A., there are other means of financing stabilization activities than to use the profits of revaluation. The British method was to provide the authorities with Treasury securities to sell in the domestic market.

EFFECT OF DEVALUATION ON GOLD PRODUCTION

The fourth effect of devaluation might be to encourage production in the gold mining areas of the world as well as, perhaps, to increase the gold imports of the United States from other nations whose gold stock would be correspondingly diminished. Raising

the price paid for gold increases the revenues of the gold mining companies, and until costs have risen proportionately profits are increased. Larger profits for the producers might be expected to increase output by bringing marginal deposits into activity. This increase in output would enlarge in turn the buying power of the gold producing regions and add to the gold reserves of monetary systems. Incidentally, increasing gold output would directly provide some additional employment.

How soon would the stimulating effects be felt? Contrary to theoretical expectations, the immediate response of gold producers might be feeble. In conversations with gold mining engineers a phrase glibly and frequently repeated is "sweetening the ore." By this phrase reference is made to the practice of diverting production in profitable periods to the poorer ores and perhaps restricting output in the richer fields. Under this practice the better ores are preserved for periods in which mining costs have risen so that over a long period of time output can be held more steady. Contributing also to a policy of sweetening the ores is the reluctance of producers to install capital equipment in a period in which the tendency is for mining expenses to increase with the general advance of wages and living costs. By the time the equipment is installed it might be expected that wages and price levels would be adjusted to the increased price of gold. These considerations would not operate so powerfully in the case of placer mining in which little capital equipment is required, but placer mining is responsible for only a minute portion of total world output.

The response of gold production to the new price of gold would thus be expected to be somewhat retarded. Many ardent advocates of devaluation by the United States in 1933-1934, nevertheless, placed great confidence in its immediate and stimulating influence. They argued that anticipations of an increase in gold output at a later period would do much to change the immediate psychology of buyers of goods in that they would be led to stock up in advance of a predicted rise in prices. Those of this opinion were not greatly dismayed by the possibility that a price rise thus generated might not prove to be permanent. But if prices thus inflated should collapse later, such expectations would be rudely shocked. For the immediate future, however, the effectiveness of devaluation as a device to stimulate produc-

tion would depend upon attitudes with respect to the permanency of a price advance thus incited.

What countries would profit most from increased revenues for the gold producers? In 1932, South Africa, Rhodesia, Canada, Australia, and British India produced about 70 per cent of the world's total. The United States, on the other hand, produced in 1932 only a little more than 10 per cent of the world's output. From the point of view of encouraging gold production the argument for devaluation thus reduced itself largely to the question of the desirability of increasing the ability of the British empire to exchange gold for the products of our labor.

What about the pull that an American gold price of \$35 per ounce would exert upon existing gold stocks? Gold reserves of France in 1932 were almost as large as our own and five times the size of England's holdings. If France should refrain from raising the price paid for gold much of its yellow metal might be expected to return to the United States. Since our own gold stock was then reasonably adequate for reserve purposes, and since some expansion in gold outputs should be anticipated, the drawing of more gold to our shores would be expected to raise our holdings to extreme levels. What would be the consequences to us of such an accretion in our gold supplies? Would it render us helpless to resist extreme price inflation in the future? Would efforts to resist such price inflation require a degree of reliance upon governmental authority that would be unwelcome to all except outright proponents of authoritarianism? Or would America cease to attract gold as our price level rose in response to devaluation?

PSYCHOLOGICAL EFFECTS

These were difficult questions, for the solution of which monetary economists could find no precise answer. Equally difficult to diagnose was the matter of the psychological consequences of devaluation. The reactions of holders of currency to devaluation would depend perhaps more upon the extent to which irrational ideas should prevail than upon what was really correct. As we have seen, money, in modern times, has become increasingly difficult to define and comprehend. The distinction between the money of account and the media of debt settlement, or currency, is not frequently made. To cut the dollar's gold value by one-half might mean to most persons an automatic and equivalent

reduction of the dollar's general value. The only material reality paper currency had to many of us was its command over gold. If calculations in security as well as in commodity transactions should begin to take place on the assumption of the inevitability of an increase in prices by an amount substantially equal to the depreciation of the dollar in gold, might not forces be unleashed which would effectuate some such change in price levels? If, on the other hand, the general expectation would be that inflation thus generated must collapse of its own weight, the outlook would rather be on the side of the ineffectiveness of devaluation. But no expert, the writer always insisted, was in a position to predict the probable influence of the psychological factor.

INSECURITY OF EXPECTATIONS REGARDING THE GENERAL EFFECTS OF DEVALUATION

None of the processes through which devaluation must operate to produce the desired results could thus be relied upon with confidence. The result of exchange depreciations would depend in part on foreign monetary and trade policies; government spending of the profits of devaluation would of itself do no more than other types of spending; enhanced gold production would have to operate in the first stages largely through psychological forces; and the strength of these psychological forces themselves was difficult to predict. The danger that a runaway inflation might result eventually from substantial devaluation was imminent, as also, on the other hand, the possibility that the principal result would be merely to increase America's share in the world's gold stock. Because of the danger of an uncontrollable future inflation, however, a danger that a rapid business recovery would have accentuated, the writer never believed the case for aggressive¹ devaluation was strong. A much safer course would have been to rely principally upon the restoration of confidence produced first by the successful reopening of the banks and shortly thereafter by the creation of the system of the governmental guarantee of bank deposits. Certain other sound stimulating devices were available, but these cannot be discussed here. This is not to say that some readjustment in the dollar's

¹ Devaluation that proceeds further than is necessary to correct inter-country maladjustments in price levels.

foreign exchange value was not required in 1933. The real question was how to proceed to obtain this objective and how to promote world trade, in the total volume of which this country shares.

Whence, however, came the overweening faith of devaluationists in the precision of results that were expected? Fundamentally the answer must be that oft-mentioned misconception of the meaning of money in modern economic societies. As indicated, in a gold standard regime the medium of payment was regarded by devaluationists as the equivalent of a certain bit of gold so that exchanges should be analyzed as offers of gold for goods. Under these conditions, and under the assumption of a certain rigidity in the gold values of commodities, devaluation would mean automatically an increased offer of dollars for goods; or, in other words, a somewhat proportional increase in prices. Arguments resulting from analysis of the processes by which the price of gold is related to other prices were minimized by the "metallist" theorists. Instead, homely phrases were glibly employed to identify dollars with pieces of gold. Thus, a buyer of a tractor under an installment payment plan was asserted to be going "short" in gold. Or a seller of goods for dollars was described as a "demander" of gold. All this obscure analysis would have been avoided if such terms as "money" and "currency" had been differentiated and if the significance of the gold standard had been understood.

ECONOMIC DEVELOPMENTS FOLLOWING DEVALUATION

The discussion has proceeded thus far from the point of view of 1933. A few remarks, however, are in order as to leading developments since devaluation. No attempt is made here to establish a causal tie-up with our devaluation. To disentangle devaluation from other operating forces is beyond our ability, space, and patience.

1. Wholesale prices¹ rose between 1933 and 1938 (averages for the year) from 66 to 79—considerably less than the reduction in the gold content of the dollar. Selected groups of prices, such as of farm products, have risen to a greater extent.

2. European countries, in general, avoided retaliatory devaluations. Except for reciprocity treaties, however, there was an

¹ All Commodities Index of the Bureau of Labor Statistics.

increased reliance upon other measures of combatting adverse trade balances, such as quotas, clearing arrangements, barter agreements.¹

3. Immediately after the Tripartite Agreement of 1936, six countries² agreed in effect to avoid devaluations designed to produce competitive trade advantages.

4. The inflow of gold to the United States proved to be tremendous. In February, 1940, for instance, more than two-thirds of the gold reserves of central banks and governments was held in the United States, and the share of this country in the world's gold was destined to increase even further.

5. Since 1933 this country has failed to approach a condition of full utilization of the factors of production. This nonuse of productive resources may be corrected, however, as armament expenditure gets further under way.

¹ For an explanation of clearing arrangements, see Appendix, Chap. XXXIII, Note II.

² The United States, England, France, Belgium, the Netherlands, and Switzerland.

CHAPTER XXXIV

THE COMMODITY DOLLAR AND PRICE STABILIZATION

HOW CHANGES IN THE GOLD CONTENT OF THE DOLLAR MIGHT AFFECT THE PRICE LEVEL

In the discussion of 1933-1934 policies, it was several times pointed out that devaluation might increase this country's gold reserves so greatly that the ordinary controls of the reserve banks would be incapable of restraining a severe inflationary tendency. This danger many of the leading advocates of dollar devaluation in 1933 admitted to be real. But to justify their position they frequently argued that a new control of price levels, and a more powerful one, could be introduced. The gold content of the dollar could be increased. If this were done precedents would be established for effecting periodic readjustments in the gold content of the dollar as the general level of prices should move above or below the point at which stabilization would be desirable. Part of the controversy of 1933-1934, therefore, centered about the wisdom of the "commodity dollar," an expression that had come to be substituted generally for the earlier "stabilized" or "compensated" dollars.

How would periodic adjustments in the gold value of the dollar operate upon price levels? Unless the (erroneous) metallist doctrine is accepted, the effect on prices of changes in the gold weight of the dollar would have to be a result of one of the processes outlined in the preceding chapter. The foreign exchange value of the dollar might be altered so as to affect our sales and purchases from abroad as well as to operate on gold flows. The ability of this country to manipulate the exchanges in its favor would depend, of course, on a number of factors, one of the more important of which would be the willingness of foreign nations to hold to a monetary unit of fixed gold value. If the commodity dollar should operate successfully in the United States, the chances that foreign countries would remain passive and permit

this country to have a monopoly in the field of advantageous foreign exchange fluctuations would be lessened. In the event of simultaneous and proportional changes in the gold contents of foreign currencies an alteration in the gold weight of the dollar would have to operate principally, at least, through one of the remaining processes that were set forth.

The second channel through which effects might be communicated to the economy would be the change that would be effected in the dollar reserves of the gold-holding institutions in our banking system. If the government, however, should insist on taking over the profits, as well as absorbing the losses of gold revaluation, bank reserves would not be directly affected. If we assume, however, that changing the weight of the dollar would be permitted to register its affects on Federal reserve bank reserves, devaluation would increase the ability of the reserve banks to undertake policies that would enlarge member bank reserves. Conversely, increasing the gold weight of the dollar would lessen the dollar value of reserve bank reserves. A diminution in the reserves of the reserve banks would tend to usher in restrictive reserve bank policies and so compel credit contraction by member banks. Such contraction might exert sufficient pressure to impede tendencies of prices to advance. Even though the measures that were first taken might be incapable in and of themselves of producing the desired results their promulgation would be a hint to the speculative markets that further measures of credit restraint would be employed to the extent that would be necessary. This, at least, is the argument of proponents of the plan. In opposite manner, at a time in which prices are falling, a decrease in the gold content of the dollar would operate to enhance the dollar value of the reserves of the reserve banks.

Few would deny, however, that the process of adding to or subtracting from the dollar reserves of the central banks would be unlikely to operate upon prices with the same precision as would be expected from changing the foreign exchange value of the dollar. Under certain circumstances it might not prove feasible to reduce (or, conversely, to increase) reserves sufficiently because the necessary changes in the gold content of the dollar would produce too much of an effect on the foreign exchanges. As will be brought out later, some prices are much more respon-

sive than others to foreign exchange rates, and relative prices have to be appraised from the point of view of political as well as of economic considerations. In the first instance, moreover, changing the dollar value of the reserve banks' reserves (gold is supposed to be concentrated in these institutions) would not affect member bank reserves. The commodity dollar would merely affect reserve bank reserves in a way that might compel the reserve banks' administration to take appropriate action to change the volume of member bank reserves. But there are occasions in which reserve bank weapons do not bite effectively.

If the plan should presume that the Federal government would hold title to all the monetary gold of the country, the commodity dollar plan would be a means, now of adding to the government's power to spend, and then of subtracting from its disposable resources. Whether any particular index of commodity prices could be set up as a guide, in accordance with whose fluctuations it would be incumbent to increase or decrease the volume of Federal spending, is a question which very likely would have to be answered in the negative.

The psychological influences of an increase or decrease in the dollar's gold content would have to be taken into account, as well as effects on gold mining conditions. It is probable, however, that the influence upon gold production would be less than would be assumed by the theorist. Gold producers might well question the advisability of increasing equipment merely because a reduction in the weight of the dollar has created more profitable earning conditions temporarily. It has been pointed out above¹ that favorable output conditions would be much more likely at particular times to exert an influence on the type of ores that would be extracted than on the amount of output.

It should be obvious, then, that gold revaluations would bring into play varied forces, some of which might exert desired, and others of which would tend to produce undesired, results. In medical terminology, the pill that is being analyzed contains varied ingredients. Whether the net reaction produced on the patient would be good or bad would depend on attendant circumstances. To make all this clearer we may proceed by assuming a few hypothetical situations and inquire as to the probable results of the operation of the plan in each.

¹ See above, pp. 385-387.

EXAGGERATION OF PRICE DISCREPANCIES

As a first case, let us assume a situation in which the chosen index shows an upward movement of prices as a whole. Agricultural prices, however, are assumed either to be falling or to be rising at a less rapid rate than those of nonagricultural prices. The lagging tendencies of agricultural prices might be due to a variety of circumstances, such as plentiful rainfall, increased and improved use of agricultural machinery, or reduced foreign demand for our food staples. On the other hand, labor and credit conditions have possibly been such as to increase urban costs of production. Frequently, this disparate movement of agricultural and nonagricultural prices occurs. Let us also assume that the monetary statutes of other countries are not such as to require them to alter the gold contents of their currencies to match changes in the weight of the dollar. This country, in other words, would then be in a position to move the dollar upward or downward in terms of important foreign currencies.

When the chosen index of commodity prices is rising the commodity dollar formula would call for an increase in the gold value of the dollar. So far as the foreign exchange factors are concerned, however, such action might not produce a better alignment of domestic prices. Important articles of export, among which agricultural products have been, and may continue to be, numbered might be driven downward in price. The effect of the commodity dollar plan thus might be to reduce agricultural incomes at a time in which farmers are being compelled to pay more for urban products.

Somewhat curiously, farm organizations have been leaders in the program to secure a monetary unit whose gold value would be adjusted in response to changes in the average of general prices. In a situation of the type above described, however, with agricultural prices lagging behind in an upward trend, there is no question as to how agricultural spokesmen would throw the weight of their influence. Any statute whose enforcement would accentuate a relative price movement unfavorable to agriculture would certainly be revoked. Joining in the general agricultural resentment at such a monetary system would be various urban industries especially dependent on the export trade.

Let us next assume, however, that the policy of altering the gold value of monetary units has been adopted by a number of important nations of the world. One of the leading proponents of the commodity dollar, Professor Irving Fisher, admitted at the 1911 meeting of the American Economic Association¹ that, to make the plan workable, an international agreement should be entered into so that there would be simultaneous revisions of the gold values of the monetary units of important nations. If this were done the commodity dollar plan would not produce changes in the dollar's foreign exchange value, and the efficacy of the plan would depend on the operation of other processes, the more important of which would be its effect on the central banking system's reserves.

But if deprived of power to affect the foreign exchange value of the dollar, the plan might be impotent as a measure to control price movements in the short as well as in the long run. Too many factors operate on prices to make it feasible to depend exclusively on credit manipulations. As a matter of fact, the market might well question the willingness of the central banking authorities to employ credit restraints in a period in which industry in general is far removed from a condition of full employment. The reserve authorities, in the formulation of their credit policies, might well disregard reduced (dollar) reserves. If it should be made mandatory upon the reserve authorities to increase credit restraints as gold reserves fall, the permanency of the statute would be doubtful indeed.

Could general prices rise, however, without the existence of a strong tendency for the economy to approach full utilization of its factors of production? Such a condition would be by no means impossible. Particularly likely to produce such a price increase would be a variety of "goods' factors"—labor disturbances, scanty rainfall, insect depredations, and the like. When such obstructions prevail, credit restraints would not seem to

¹ Professor Fisher stated: "As to Professor Kemmerer's objection that the adoption of the plan by one nation would derange the international exchanges, I quite agree with all he says. For this reason I should not advocate the plan for one nation alone, but should advocate it only under international agreement." See "A Remedy for the Rising Cost of Living—Standardizing the Dollar," *American Economic Review*, supplement, March, 1913, p. 48.

represent the height of wisdom on the part of the central banking administration.

A more favorable situation for the operation in mechanistic fashion of the commodity dollar would be one in which the price index is rising as before, but in which the prices of important articles of export are advancing at a faster, instead of a slower, rate than prices in general. But, again, if these prices have risen principally as a consequence of scarcity factors the popularity of the plan would certainly abate. The cotton grower whose output has been reduced by boll-weevil forays would loudly assert that he requires higher prices to offset the impairment in the size of his crop. A persistent tendency of certain prices to advance relative to others might well indicate the necessity of devoting more capital and labor to their production.

When prices fall the mechanistic observance of the commodity dollar plan might also be of questionable wisdom. Prices may decline as a consequence of the general introduction of cost-lowering processes, of superior plant organization, of economies resulting from large-scale production methods, as also from the fuller cooperation of labor. When such goods factors, as distinguished from monetary forces, are responsible for the lowering tendencies in prices it is doubtful if, in all instances, they should be resisted by putting the central banks in a position to initiate credit expansion. Any excess of credit that is produced might induce, under particular circumstances, a vast amount of plant expansion, flow into the security markets and other speculative channels, as in the decade preceeding 1929, and contribute to general maladjustments in our economy. If, at the same time, the need for credit is reduced by faster transportation, more careful buying, vertical organization of plants which exchange less of goods against currency, the commercial need for credit might be lessening, instead of increasing, even though price indexes are falling.

THE ATTITUDE OF THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

It is a rather revealing fact that administrative bodies charged with the maintenance of sound credit conditions have generally contended that the factors operating on prices are so varied and numerous that price indexes could not be relied upon exclusively to determine the degree and necessity of offsetting credit devices.

To quote from the Board of Governors of the Federal Reserve System on this point:¹

It is true that violent changes in prices are harmful. A very rapid rise in prices results in speculation, in accumulation of inventories and in unsound undertakings, which later result in a collapse with falling prices, failing business, and general distress.

But that does not mean that lasting prosperity is assured when prices are steady. We had fairly steady prices from 1921-1929; but during that period there was developing a speculative situation which led to the collapse in 1929. It was during this period that billions of unsound foreign loans were made; that expensive and unsoundly financed apartment houses and office buildings were erected far beyond the needs of the people; that stock prices rose to fantastic levels. It was during this period that the ground was prepared for the depression which began in 1929 and from which we have not yet completely emerged. An unchanged average of wholesale prices alone, therefore, does not assure the people of lasting prosperity. While prices are stable, destructive forces may be at work that lead to panic and disaster.

The board also made it clear that the maintenance of sound credit depends on member bank use of reserve credit as well as upon the amount of reserve credit with which banks are provided. All this applies to the commodity dollar proposal insofar as altering the dollar value of gold would increase or decrease reserve bank reserves. In the absence of an international agreement under which the gold values of important currencies would be varied simultaneously, the commodity dollar would also operate on prices via exchange rates. As has been indicated above, however, it is not hard to imagine situations in which the type of foreign exchange rate changes that would be required to resist upward or downward movements in the price index might easily create unwanted changes in price relationships.

In view of the force and indisputable truth of these criticisms of the commodity dollar, to what circumstances shall we attribute the strength and persistency of the proposal? In answer to this question the following observations may be pertinent:

1. The recent breakdown of the international gold standard has accentuated the movement to find an alternative and fairly automatic guide to credit policy.

¹ See "Proposals to Maintain Prices at Fixed Levels through Monetary Action," *Federal Reserve Bulletin*, April, 1939, p. 257.

2. The Federal Reserve System of the United States is a creation of Congress, and there has been some unwillingness on the part of Congress to bestow a high degree of discretionary authority to the system's administrative bodies.

3. In monetary thinking the ideal of distributive justice has been discussed from too narrow a point of view.

WHAT IS AN HONEST DOLLAR?

There is a common tendency in professional, as well as lay, circles to assert that the only honest dollar is one whose purchasing power remains fairly steady over a period of time. In its crudest form the argument is that the debtor always loses unjustifiedly to the creditor when contracts are settled in a medium of high purchasing power, that is, at a time of a fallen price level. Vice versa, it is contended that when price averages rise it is unfair to the creditor to have obligations due him discharged in a medium of reduced exchange value.

Let us examine these contentions somewhat critically. Assume a period in which prices have risen principally because of factors making goods relatively scarce, such as scanty rainfall, labor disturbances, lagging technique. In situations of this type higher prices record the fact that society is becoming poorer. Should all classes participate in the general poverty? If it be agreed that they should share in the common misfortune, it is not necessarily unfair for the creditor to be forced to accept in the discharge of his claim against the debtor a dollar of lessened purchasing power. To provide him with a dollar of unreduced purchasing power would amount to insuring him (the creditor) against losses in which the whole society should share. It would mean giving the creditor a preferred status in our economy.

In contrast with conditions just assumed, a decline in price averages attributable to improved organizational efficiency, to invention and superior technique, represents a gain in wealth in which all classes should perhaps be participants. Is it necessarily wrong that the debtor should then make payments in dollars of increased purchasing power? To be sure, the creditor will receive more purchasing power than he initially tendered. But, on the other hand, increased productivity renders it easier for the debtor to offer a medium of enlarged purchasing power. Among creditors are our most cherished social institutions,

hospitals, schools and colleges, medical clinics. Their endowment funds, represented by bonds, notes, and debentures, indicate their creditorship.

When prices move up or down, not as a consequence of goods factors, but as a result of changes in the volume of the circulating medium, totally different situations prevail. No one would maintain that this country's price deflation between 1930 and 1932 was fair to anyone, creditor or debtor. The increased difficulties of the debtor in discharging his obligations increased the number of situations in which bankruptcy deprived the creditor of power to receive. Cases can easily be constructed hypothetically, or discovered historically, in which, all other conditions unchanged, it would be generally agreed that it would have been fairer if price levels had not changed. But the inescapable fact is that prices do change, and that obligation imposed upon the banking system to resist such changes as have been illustrated above might contribute to uncontrollable sweeps in prices at later periods of time. No banking system should ever be instructed to base its activities upon the disclosures of one index alone.

NO SINGLE GUIDE TO CREDIT POLICY IS ADEQUATE

It is for this reason principally that the author has never favored instructions by Congress to the Federal Reserve System to stabilize prices or, for that matter, to follow any single guide to credit policy. The commodity dollar, aside from its effect in the direction of producing changes in the external value of the dollar, would affect credit only by way of the changes it would impart to central bank reserves. To be certain that these changes would fructify in policy it would be necessary to instruct the reserve administration to follow a chosen price index. Such instructions, however, can never take adequate account of special conditions or unusual circumstances. As stated by a committee of the United States Chamber of Commerce in 1929:¹

The elements which create a financial situation are constantly being combined in different proportions and it is not possible to state in advance which offer the key to the understanding of the problem. The determination of desirable policy in confused and complicated situations

¹ *Main Report on the Federal Reserve System*, p. 40. Reprinted by permission.

obviously necessitates the exercise of the most far-sighted management. The experience of recent years has been especially pointed in illustrating the mixed elements which must be considered in determining credit policy, and the importance which a single one of them can assume upon occasion.

How ably in its experience, however, has the federal reserve administration accepted its policy-making prerogatives? Discussion of this question will be provided in the following chapter.

REFERENCES

- IRVING FISHER, "A Remedy for the Rising Cost of Living—Standardizing the Dollar," *American Economic Review*, supplement, March, 1913, with discussion by others, pp. 20–51.
- HAROLD L. REED, *The Commodity Dollar*.
- F. W. TAUSSIG, "The Plan for a Compensated Dollar," *Quarterly Journal of Economics*, May, 1913, pp. 401–416.
- ANEURIN WILLIAMS, "A Fixed Value of Bullion Standard," *Economic Journal*, June, 1892, pp. 280–289.

CHAPTER XXXV

GUIDES TO FEDERAL RESERVE POLICY

THE PROBLEM OF EARNINGS

In the preceding chapter it was argued that any central banking administration must take into account a variety of factors in formulating its credit policy and that, for this reason, it is not feasible for the legislative branch to go very far in defining the specific objectives of credit policy. Factors that are extremely important at one time may be rather insignificant at another, while elements that generally can be ignored may become key forces in particular situations. In order to illustrate all this, a brief and summary statement of the objectives of credit policy during the rather brief life of the Federal Reserve System should be revealing.

During a great part of the period that has elapsed since 1914 the United States has been in so strong a position to attract gold that more than ordinary attention could be devoted to purely domestic factors. On the inception of the Federal Reserve System member banks as a whole had very little need for Federal reserve accommodation. Gold imports into the United States during 1914 and 1915 were very heavy, and ease in our credit markets was further incited by the reduction in reserve requirements provided by the act. In this situation the principal apprehension of the reserve banks had to do with earnings. Although it was clear that the test of the ability of the reserve system's management was not to be found in the amount of dividend disbursements, it still was believed that a comfortable earnings position would increase the system's prestige.¹

With the discount demand limited, however, the earnings problem was pressing. Federal government obligations were

¹ Under the terms of law, and so that earnings might not be given undue importance in policy making, dividends paid to member bank stockholders in the reserve banks could not exceed 6 per cent annually, with accumulations for arrears.

then limited in volume, and the bill market could not attain any extensive development quickly. Under these conditions, those of 1915 and 1916, the reserve banks, despite serious forebodings, found it advisable to purchase sizable amounts of municipal issues. To avoid, as far as possible, getting involved in obligation to support the market for the less seasoned variety of municipals that would be forthcoming, the reserve banks confined their purchases largely to warrants issued in anticipation of tax collections.

THE COMMERCIAL CHARACTER OF THE PAPER TENDERED FOR DISCOUNT

Shortly after this country's entrance into the first World War in the spring of 1917 interest rates had tightened sufficiently to warrant predictions that the volume of reserve credit could be adequately adjusted by the utilization of the rediscount weapon alone. The principles to be followed in controlling rediscounts would be implied from provisions of the Federal Reserve Act. The reserve banks were authorized to discount only short-term and self-liquidating agricultural and commercial paper. They were not to discount paper the proceeds of which had been devoted to investment and speculative operations.¹ The Federal reserve notes that would be issued, in addition to the 40 per cent gold backing, must have the security of such self-liquidating paper. Presumably the reserve banks would take into account the question whether member bank applicants were making proper use of Federal reserve credit. Although the immediate purpose of most borrowings would be to restore a reserve deficiency created by all types of operations, it certainly was not to be expected that the discounting bank would get more extensively involved in noncommercial loans as its debt to the reserve banks should increase.

WAR FINANCE OPERATIONS

This type of qualitative credit control—the type evidently contemplated by the lawmakers—encouraging the self-liquidating use of the proceeds of bank loans and discouraging capital and speculative uses, was not destined, however, to secure a fair trial. At about the time discount demand assumed sizable dimensions,

¹ Except for carrying or trading in government securities.

financial conditions in the country changed greatly. After the entrance of the United States into the war the impelling responsibility of the reserve banks was to cooperate with the United States Treasury in floating the war issues. Reserve bank discount rates had then to be fixed with the primary aim of facilitating subscriptions by individuals and banks. Under this program, discount rates were adjusted to the coupon yields of the Treasury issues, and the real control over rates of discount was vested in the Treasury. In anticipation, furthermore, of the outbreak of hostilities, the Federal Reserve Act had been amended by Congress on Sept. 7, 1916, so that reserve banks might discount member bank notes directly, instead of only customer's notes endorsed by member banks. Such notes of member banks might be secured by government obligations, as well as by eligible paper. No longer was there any pretense that the volume of reserve credit would be automatically adjusted to the business activity of the country. At the same time as direct discounting was permitted banker's acceptances were authorized for stipulated types of domestic transactions¹ (the original act permitted acceptances only in foreign trade financing), and Federal reserve notes could be issued against the security of this paper, as well as against paper obtained by discounting.²

THE NECESSITY OF PROTECTING RESERVE BANK RESERVE RATIOS IN 1920

Treasury requirements thus dominated Federal reserve policy until well after the Armistice. In the opinion of the Treasury it was necessary that interest rates be kept low during the spring and summer of 1919 in order that its short-term issues could be refunded at low rates and unsettled war debts discharged. Not until the fall of 1919 did the reserve banks regard themselves as in a position to raise discount rates for the purpose of curbing security and commodity speculation and to resist alarming increases in the cost of living. In the early months of 1920 discount rates were lifted repeatedly until the 7 per cent rate was reached (on certain types of rediscounts) at the New York reserve bank.

¹ Including the storage of staples.

² An amendment in 1917 to the Federal Reserve Act provided that Federal reserve notes might be secured also by member bank notes with government obligations as collateral.

The increases of early 1920 were justified on two grounds. The first has been referred to just above. It seemed necessary to curb the use of credit in commodity and security speculation and to obstruct the tendency of the cost of living to rise. The second justification for the rate increases lay in the well-nigh complete exhaustion of reserve bank excess reserves resulting largely from gold shipments to the orient and to various European countries after the wartime embargo had been removed. In the author's opinion, it is doubtful if reserve discount rates would have been pushed up so rapidly had not the gold outflow taken place. Here, then, was a situation in which the reserve banks functioned along more or less traditional lines.

LATER FREEDOM FROM RESTRAINTS IMPOSED BY RESERVE CONDITION

From the close of 1920 until the middle of 1931 gold movements were generally in the direction of the United States. The country's monetary gold stock thus increased from about 3 billion dollars at the end of 1920 to almost 5 billion dollars in the middle of 1931. This gold inflow provided member banks with the means of discharging a considerable portion of their discount debts to the reserve banks, a debt which reached its peak in October, 1920, at a figure 2.8 billion dollars. In this decade, however, there were periods in which the reserve bank authorities found it desirable to accelerate the reduction in member bank indebtedness by having the reserve banks increase their purchases of government securities. It is true that, in this decade, there were various short periods in which tense credit conditions were regarded as necessary and desirable for the purpose of curbing unwelcome economic developments. But, for the period as a whole, the gold reserve position of the reserve banks had little to do with the restraints that were imposed. These restraints, when and to the extent that they were employed, found their justification in unsatisfactory tendencies in the internal use of bank credit. But, in periods in which restraint was the intended policy, no single maladjustment was cited as the justification for reserve bank intervention. The decade of the twenties, therefore, was a period of unusual interest in that an opportunity was provided to determine the considerations the central banking authorities would regard as important if only the traditional

factor of reserve position was rendered less significant than ordinarily in the history of central banks.

ENCOURAGEMENT OF RECOVERY IN 1922

After the 1920 collapse in commodity prices it was not regarded by the reserve authorities as wise to attempt to prolong the high discount charges. Nineteen twenty-one was a year of numerous reductions in rates at each of the 12 reserve banks. This downward rate trend continued during 1922 so that at the New York reserve bank a 4 per cent discount rate prevailed until the last week of February, 1923. During the first half of 1922, open market purchases by the reserve banks were heavy and, in conjunction with other factors, operated to change the movement of member banks' reserves from a downward to a rising direction. The early 1922 increase in holdings of government securities was undoubtedly inspired by the miscellaneous actions of individual reserve banks in seeking to increase their holdings of earning assets. Machinery for coordinating the open market activities of the reserve banks in the interest of a system policy had not then been perfected. Regardless of the cause of the 1922 increase in reserve bank holdings of government securities, the economic consequences seemed to be so favorable as to convince many members of the reserve system of the effectiveness of cheap credit as a business stimulant in periods of depression. The year 1922 proved to be one of tremendously rapid industrial recovery. The (later developed) Index of Industrial Production of the Federal Reserve Board rose 40 per cent without serious interruption. Other indexes, such as those of employment, commodity distribution, wholesale and security prices, all displayed improvement.

During 1922 the dominant question in Federal reserve circles was whether any credit restraints should be imposed by Federal reserve authorities. As previously indicated, the state of the gold reserves of the reserve banks was not such as to require restraints. Still there were certain grounds of apprehension regarding the soundness of underlying economic developments. In the first place, some economists were contending that the (somewhat more than mild) commodity price advance of early 1922 might develop into a runaway price inflation. Other authorities feared merely that the pace of recovery was too rapid to be sustained. Finally, it was alleged by certain statistical

analysts that there was evidence that too much credit emanating from the reserve banks was being used for purposes not consistent with the spirit of the Federal Reserve Act and in a way likely to result in violent reaction.

THE BOARD'S 1923 DOCTRINE

This latter point of view found expression in the *Annual Report of the Federal Reserve Board* for 1923. What was characteristic about the 1923 statement of the Board, however, was the insistence that, as a means of discovering untoward drifts in credit, aggregate statistics, in the form of changes in the credit volume, physical outputs, employment, and goods distribution should be studied and appraised to determine the soundness of the credit structure. The test of discount policies would thus have to be found not so much by seeking to determine the particular type of loan a discounting member bank might make as by relating volumetric credit data to changes in physical production.¹ To cite this report:²

By what means may it be known whether the *volume* of credit provided by the Federal reserve banks is in any given set of circumstances adequate, excessive, or deficient? . . . The Board is fully aware of the fact that the problem of credit extension involves the question of amount or volume as well as the question of kind or character; . . . But . . . it is not necessary to go outside of the Federal reserve act to find suitable methods of estimating the adjustment of the volume of credit provided by the Federal reserve bank to the volume of credit needs. The Federal reserve act itself suggests the nature of the tests, guides, or indicators . . . to be used in gauging the need for . . . Federal reserve credit.

Under this doctrine, the first approach to a decision as to the soundness of the credit structure would be found by comparing, with due attention paid to lags, changes in the volume of bank credit with the physical volume of trade. This approach involves a variety of controversial problems. But we wish only to emphasize here that, if inflexibly observed, it would result in a rather harsh central banking policy during a period of recession. As production and trade receded, it would be required that the

¹ Credit, it would thus appear, is something that falls on the just and unjust alike.

² *Annual Report of the Federal Reserve Board*, 1923, pp. 33-34. Italics are our own.

supply of credit outstanding be reduced. Insolvencies would thus be increased and weak borrowing positions liquidated. In minor reactions such a stern policy might be justified on the ground that it would compel the necessary readjustments to be effected at an early date and thus set the stage more promptly for revival. If the fundamental causes of reaction were serious, however, the danger that an otherwise minor readjustment would attain the dimensions of a major crisis would be intensified. Bear sentiment in security and commodity markets might easily develop to a point at which no breathing spell would be provided in which recovery could be initiated. The doctrine of fitting the credit volume to physical trade would work well in depressions only if, in the previous upswing, great skill and timeliness of action on the part of reserve bank administrators had prevented serious and fundamental maladjustments from developing.

Considerations of this nature no doubt entered into the decisions of the reserve bank authorities to impose credit checks in the form of mild discount rate increases and of reduced reserve bank holdings of government securities in late 1922 and early 1923.¹ At this time there was no worry in respect to the sufficiency of reserve bank reserves, and commodity price movements probably were no longer creating apprehensions that "inflation" was developing. However this may be, reserve bank restraints in 1923 were not long continued. As previously indicated,² efforts to restrict the use of bank credit shortly gave way to a policy of freeing member banks from indebtedness to the reserve banks so that the member institutions would be under less pressure to call loans or dispose of investments. Elaborate purchases of government securities were undertaken by the reserve banks in 1924 largely for the additional purpose of creating low interest rates in New York City and of facilitating thereby England's projected return to the gold standard with the pound sterling once more at a par with the dollar of 4.86.

TWIN BASES OF THE ALLEVIATING MEASURES OF 1924

By 1924, then, the reserve banks were again operating more or less in accord with traditional principles. That is, the dominant consideration was the effect of their activities on the world's

¹ The discount rate increases, however, did not begin until February, 1923.

² See above, p. 318.

monetary standard. It is interesting to note, however, that in reserve bank analytical circles principles were being formulated which, even in an economy shut off from foreign nations, would have justified the maintenance of easier credit conditions during 1923 and 1924, years generally of receding tendencies in business, than would have been permissible under the strict application of the Board's 1923 doctrine. Mr. Carl Snyder, economic consultant of the New York reserve bank, was then beginning to enunciate the doctrine that ideal credit policy for the reserve banks would require the outstanding volume of member bank credit to be stabilized over a period of time. Snyder interpreted his statistical data to show that a growth of the mass of credit from year to year should be at a rate that would correspond with the calculated long-term increase in the physical volume of trade. A greater increase than this, Snyder argued, generally means rising prices (all prices, and not merely prices at wholesale, and inclusive of wages, rents, and the cost of living). Out of an increase in the general price level booms develop, inciting speculative excesses which always end in disaster. On the other hand, so Snyder contended,¹ empirical evidence demonstrates the tie-up that exists between a less than average growth of the credit volume, a falling index of general prices, and industrial recession.

Snyder's formula thus calls for greater liberality in manipulating the credit volume during periods of threatening recession than would the production index doctrine of the Federal Reserve Board as enunciated in 1923. Snyder's analysis of the velocity factor also led him to conclude that fluctuations in V would be sufficient to take care of seasonal and cyclical fluctuations in industry if only the long-term rate of growth in the credit volume were steadied in the suggested manner.

If we may be permitted to get ahead of our story, these two doctrines, that of the Federal Reserve Board in 1923 and of Snyder in 1924, may be contrasted with the opinions of the present chairman of the Board of Governors of the Federal Reserve System about desirable policy during years of recession. In reference to such years as 1937, Marriner Eccles expressed the opinion that, when velocity is low, as it usually is during depressions, the credit volume should be expanded at a rate in excess of

¹ See Carl Snyder, "The Problem of Monetary and Economic Stability," *Quarterly Journal of Economics*, February, 1935, pp. 173-205.

normal. Fluctuations in C , in other words, should be employed to counteract reverse fluctuations in V . Eccles would thus attempt to stabilize CV , whereas Snyder would try to avoid fluctuations (trend eliminated) only in C .

Chronologically these three doctrines indicate a trend toward greater liberality in periods of industrial recession. Under the Board's 1923 doctrine the credit volume would be reduced as the physical volume of trade fell. Snyder, however, faced with industrial recession, would try to steady the credit volume. But Eccles would endeavor to produce a growth in the credit volume during recession at a sufficiently rapid rate to offset the dollar's reduced turnover.

Factors responsible for the increasing vogue of liberal credit doctrines in recent years have been pointed out in numerous passages. But, to return to our narrative, two doctrines emanated from the New York reserve bank in 1924, each of which implied the desirability of cheaper bank credit than could have been defended under the 1923 pronouncement of the Federal Reserve Board. One of these was that liberal credit policies and cheaper money rates would facilitate the restoration of the international gold standard so that, henceforth, credit policies could be formulated on traditional lines. The second doctrine was that the domestic situation itself called for reserve bank policies that would cheapen interest rates, reduce member bank debt to the reserve banks, and encourage the flotation in this country of foreign securities, the proceeds of which would be spent, in large part at least, on American goods. From more than one approach, therefore, the aggressive steps of the reserve banks in 1924 to expand the use of bank credit found support.

THE 1925 TO 1928 CONFLICT IN BASIC FACTORS

From 1925 until 1928 the Federal Reserve System was forced to continue to take into account the requirements of the international monetary standard. At the same time, however, the domestic speculative situation was creating grave apprehension. The first set of considerations seemed to require continued cheap credit, but the latter evidently suggested the need of restraint. Higher commodity prices in this country, stimulated by abundant credit, would make it easier for England to keep the pound at the high level of \$4.86. But, unfortunately, the proceeds of bank

loans have to pass through definite channels, many of them highly speculative in character, and in their passage demands get concentrated on particular goods more than on other types. The creation of orderly inflation is not so easy as the novice generally assumes. But the contrary requirements of the two basic factors in this period were such that, by the spring of 1928, the main efforts of the reserve administration were to subdue the use of credit in security operations. Such efforts increased the insecurity of the gold standard in foreign nations.

1929 TO 1932

After the security market collapse of 1929, the principal aim of the reserve banks seems to have been to assist the banks to take over security loans called by "others" (nonbanking lenders) and to carry on sufficient open market purchases to get the average bank out of debt. In the fall of 1931 the foreign monetary crises and resulting demands for our gold operated to build up sentiment among reserve officials in favor of a policy of higher discount rates and certain other measures of credit restraint. But after the passage of the Glass-Steagall Act in the spring of 1932 the reserve banks undertook extremely aggressive measures to lessen the difficulties of banks subjected to currency hoarding withdrawals and to falling bond prices. Within a period of about half a year around a billion dollars of government securities were added to reserve bank portfolios.

AGGRESSIVE CREATION OF EXCESS RESERVES FROM 1932 TO 1936. RESTRAINTS OF 1936-1937 AND THEIR LATER ABANDONMENT

During 1933 the reserve banks continued aggressive efforts to stem the tide of deflation by adding to their portfolios about 600 million dollars more of government securities. As a result of these operations, member bank excess reserves began to advance to spectacular levels. After 1933 the continuation in the process of enlarging member bank reserves was due principally to the gold inflow. Since the fall of 1933 the reserve banks' holdings of government securities have not undergone so pronounced fluctuations. Failure of the reserve banks to sell out of their portfolio of governments in 1936-1937—a period when unsound tendencies were manifested by the excessive accumulation of certain commodities and by active security speculation and when

the reserve system attempted to reduce excess member bank reserves by the method of raising minimum reserve requirements—indicates the extent to which the reserve system had lost freedom of action. In order not to inhibit the governments' program of deficit spending the reserve banks were forced to take into account the effect of their open market policy on the market for government securities.

The economic collapse of 1937–1938 put an end for the time to reserve bank efforts to reduce excess member bank reserves to moderate levels. In these two years there was complete or partial abandonment of the three curbing devices of 1936–1937, raising reserve requirements, increasing margin requirements on member bank collateral, and sterilizing gold imports.¹ Member bank reserves are now at record levels; and it is not likely that an exodus of gold will take place to reduce them to a conservative volume. Without new powers the reserve banks will be able to do little to restrain inflationary tendencies in prices. This is admitted even in Federal reserve circles. As Mr. E. A. Goldenweiser, director of the Board of Governors' Division of Research and Statistics, stated in the spring of 1940, policy was then being directed merely "to exert an influence toward maintaining orderly conditions in the capital market."² This meant principally supporting the government's ability to procure funds from the banking system by offering Treasury securities on a low yield basis.

STABILIZING THE MARKET FOR GOVERNMENT SECURITIES

Success in recent years in stabilizing the government bond market by buying when the market is selling, and vice versa, and by bringing pressure on banks not to sell when the market is weakening, has been assisted by the failure of the general capital

¹ When we sterilize, the Treasury purchases gold from importing banks. The reserve credit the Treasury transfers to the importing bank is obtained by borrowing from our own credit market. The Treasury does not issue certificates against the gold and deposit them with the reserve banks. The Treasury's "inactive gold account" is thus built up.

Under sterilization it is only the expansion of bank reserves that is estopped. The foreign deposits created by the gold shipment may be employed to purchase goods and securities in this country.

² E. A. Goldenweiser, "Cheap Money and the Federal Reserve System," *Federal Reserve Bulletin*, May, 1940, p. 388.

market to revive. The stabilizing powers of the reserve banks have not yet been tested in a period in which the demand for bank credit grows as a consequence of a prolonged economic revival or from rising security prices. In any event, it is probable that this country will now have to look to other forces than those now possessed by the reserve banks to restrain unwanted inflation. Perhaps, as abroad, a solution can only be found by endowing our political administration with increased arbitrary power over the private use of credit and over prices.

The history of Federal reserve stabilization efforts is thus not a pretty one. Almost consistently the trend has been in the direction of abandoning original principles and early controls. For this result, however, the Federal reserve administration is not to be held solely responsible. The reserve banks did not devalue the dollar in 1933 and encourage the movement toward our shores of billions of dollars of gold. Neither were the reserve banks responsible for those trends which made foreign countries unsafe havens for money capital. But, whatever be the Federal reserve administration's measure of responsibility for the present impasse, the trend of events is clear. New devices must be provided to help control a possible movement toward extreme inflation.

CHAPTER XXXVI

ARMAMENT FINANCING AND THE CONTROL OF INFLATION

EXPANSIVE POWERS OF THE BANKING SYSTEM AT THE CLOSE OF 1940

Throughout these pages there have been frequent references to the extremes to which credit and currency expansion might proceed under recently existing conditions. Member bank reserve balances in the last month of 1940 averaged 14,049 million dollars against requirements of 7,403 millions, so that excess reserves were almost as large as required reserves. Then, again, member banks have been making only the most insignificant use of their powers to borrow from the reserve banks. The total discount indebtedness of member banks averaged less than 4 million dollars during December, 1940. As far as reserve bank reserves are at issue, an enormous amount of member bank discounting could be permitted. The excess reserves of the reserve banks at the close of 1940 were two and a half times the size of the reserves required against Federal reserve notes and member bank deposits. At the same time that these conditions existed, incompletely utilized, as well as totally ignored, powers to expand the currency remained unmodified on the statute books. The factors, furthermore, that have been largely responsible for the developed ease in the credit market may continue to operate unless existing powers and policies are altered.

Since war, or preparation for war on an intensive scale, is a test of a nation's ability to drive its economic machinery to the utmost extent that is possible, it would be expected that serious thought would be directed by our monetary authorities at this juncture to the question of the imposition of restraints against unbridled currency and credit expansion. Such expansion might induce price inflation in the same manner as during the First World War, and any such price upheaval as was then experi-

enced would increase the difficulty of harnessing our efforts for military and naval rearmament. As indicated previously, a rising price level induces labor discontent and complicates the problem of determining fair prices in contracts between manufacturers and the procurement agencies. Early manifestations of price-increasing tendencies have certainly lessened the appetite of the American people for a program of rearmament and of all-out assistance to Britain.

There were other reasons why the promulgation of a program of monetary control would be expected at this time. Rapid progress had been made in approaching a condition generally described as "full utilization."¹ The national income had been about 75 billion dollars during 1940. Government forecasts were that (in terms of 1940 prices) the national income would rise to about 80 billions in 1941, and eventually reach 90 billion dollars.² The index of factory employment of the Board of Governors had risen during 1940 from 104 to 112, and the Board's index of industrial production had advanced from 117 to 135. The more nearly a condition of full utilization is reached the more likely it is that further dollar expenditures will contribute to higher prices. In such a situation the number of industrial bottlenecks rapidly increases.

UNCERTAINTIES REGARDING THE REQUIRED VIGOR OF MONETARY RESTRAINTS

Generally accepted as was the necessity for restraints, many differences of opinion prevailed in authoritative circles regarding the required degree of monetary restraints as well as the relative importance that should properly be ascribed to monetary and nonmonetary controls. At the beginning of 1941 there was still much unemployed labor, a large part of which could be trained for armament industry duties. The country was possessed of large carry-overs of stocks of important commodities like wheat and cotton; and, furthermore, the technical efficiency of industry had long been in process of enormous improvement, largely as a consequence of those very measures of social reform that had been making it so necessary for the entrepreneur to economize

¹ See, however, p. 415.

² Compare John H. Williams, "Economic and Monetary Aspects of the Defense Program," *Federal Reserve Bulletin*, February, 1941, p. 95.

in his use of labor. In the matter of recent advances in technology, the executive secretary of the Temporary National Economic Committee, in its final statement, observed:¹

Last November and December industrial production in the Nation as a whole surpassed the all-time peak in 1939, with fewer workers. In the great industrial center of Pittsburgh production rose 6 per cent from August, 1939, to November, 1939, but during this period man-hours worked declined 19 per cent.

In reference to this same matter of technological improvement, Mr. John H. Williams remarked:²

. . . it is wishful thinking not to recognize that she [Germany] was able to build her military machine not primarily at the expense of her standard of living, but through a highly efficient use of her technological resources.

Mr. Williams further pointed out that "England, after a year and a half of war and after raising an army larger than ever before in her history, is only now approaching full employment; and whether she even now has 'full employment' depends on how one defines this really undefinable term."

In several important respects the experience of 1914 to 1918 may not precisely apply to the present situation. To quote Williams again:³ "Purchases by the belligerents were much larger in relation to our capacity than they have been thus far in the present war." It is further to be kept in mind that there is now little danger that a price inflation will take place as a consequence of a lack of confidence in the dollar engendered by an efflux of gold. Neither is it probable that serious doubts will arise as to the ability of our banking system to absorb such Treasury issues as individual savers may be unwilling or unable to purchase.

Despite the importance of avoiding premature restraining measures, however, it is necessary to survey the situation and to inquire if a program designed to prevent future disturbances cannot be safely formulated. Before doing this it will be necessary to contrast and compare nonmonetary, monetary, and fiscal devices.

¹ *Final Report and Recommendations*, p. 83.

² Economic and Monetary Aspects of the Defense Program," *Federal Reserve Bulletin*, February, 1941, pp. 96-97.

³ *Ibid.*, p. 96.

NONMONETARY MEASURES

The first essential of effective economic mobilization for military and naval purposes is that the dollars that are allocated to armament industries be spent as productively as possible. The more productively these dollars are spent the less will be the amount of dollars that will have to be provided and the less intense the resulting dollar demands for goods. Nonmonetary controls thus include a wide range of activities, such as the effective training of workers of whom special skills are demanded, the subduing of conflicts between labor and management, adequate provision of transportation facilities, and the proper correlation of different types of output. The importance of such nonmonetary factors is self-evident. But the problem cannot be envisaged from the standpoint of such considerations alone. If scarcities of raw materials and of labor result from their excessive utilization for civilian purposes, the area of control will have to be widened. Rationing of consumption, the further development of the system of transportation priorities and moral pressure on producers and consumers to economize in their use of strategically important commodities will undoubtedly have to be extended. But such measures will not be effective if consumers are oversupplied with dollars to expend on consumption goods. The most effective means of restricting consumer spending is for the Treasury to procure its revenues from taxation and from the sale of bonds to savers.

Insofar as taxation is employed to secure Treasury revenue, the preferred type would seem to consist of those levies which serve most effectively to restrain tendencies toward increased civilian consumption. New and increased excise and general sales taxes would thus be indicated. If price-advancing tendencies develop this condition will be traceable largely to the fact that more and more workers are being given employment and receive increased wages.

But taxes directly imposed upon consumption have their limitations also. Discontent will become widespread if the old canon of taxation according to ability to pay is given only half-hearted application. Then, again, heavy taxes on consumption bear harshly on those whose incomes are in the lower strata. Consumption taxes will have to be buttressed by continuing and

increasing the severity of income and excess profits taxes. Perhaps considerations of justice and expediency render it desirable that these latter taxes be given earliest application. But it should not be forgotten that the important consideration is to levy the kind of taxes that will restrain consumption most effectively. In time of crisis the canons of distributive justice lose some of their application.

Fiscal factors, however, cannot be envisaged in isolation from other considerations. If labor organizations succeed in wresting successively higher wages from employers the necessity for consumption taxes and other direct restraints will be the greater.

MONETARY CONSIDERATIONS

How important is it to restrict the ability of our banking system to provide currency and credit? Despite what has been said above, monetary factors would seem to occupy a role secondary to those which have been indicated. Of course it would be agreed that unnecessary consumption will be encouraged if lending agencies provide consumer credits on liberal terms. In similar fashion it will be conceded that it is undesirable to have ordinary bank credit expand to a point at which it will increase the dollar competition between rival entrepreneurs for limited supplies of labor and raw materials. It should be borne in mind, however, that the uncertainties created by the armament effort, such as draining away labor and creating transportation difficulties, will do much in and of themselves to discourage nonmilitary operations in which bank credit is required. During the period of intensive rearmament it is further unlikely that there will be an intensive demand for business capital credit. On the whole, it looks as if monetary factors are far less significant than those fiscal and nonmonetary aspects of the problem that have been cited.

As indicated above, no one set of factors can be appraised accurately if its relationship to other factors is excluded. If it is easy for the Treasury to obtain dollars by routing government obligations directly to a banking system possessed of huge excess reserves, it will be more likely that such a fiscal policy will be followed than if reverse conditions obtain. It will be worth something to adjust the banking system's potentialities of credit expansion so that it will be impossible for the fiscal authorities

to assume that the problem is solely one of raising dollars. What counts here is not entirely the opinion of the Treasury as to the wisest policy to follow. Important also is public opinion and the attitude of Congress.

Although monetary considerations may thus be of secondary importance, it is believed that the banking system's position and powers should be reviewed and redefined from the point of view of exerting some influence toward sound methods of finance. It is for this reason that the writer regards the special report to Congress by the Federal Reserve System on Dec. 31, 1940, as unusually significant.¹ This declaration was the first instance in the history of the system in which the Board of Governors, the presidents of the 12 reserve banks, and the members of the Federal Advisory Council joined in a report to Congress.

UNUSED POWERS TO EXPAND CREDIT AND CURRENCY

It has been pointed out that the inflation bill of May 12, 1933 (the Thomas Amendment to the A.A. act) gave the President power to direct the Federal reserve banks to increase their holdings of government securities by 3 billion dollars. In the event the assent of the reserve banks could not be secured for such a program, or if the exercise of this power should be regarded as insufficient to accomplish the purposes of the act (to reflate prices), the President might direct the Secretary of the Treasury to issue 3 billion dollars of noninterest-bearing and legal tender Treasury notes. These powers have not been exercised. Also classified as an unused power at the time of the system's report to Congress was that of the Treasury to issue another 1½ billions of silver certificates against the seigniorage on previous purchases of silver. Another unexercised power was the ability of the President to reduce the gold content of the dollar below that fixed in his proclamation of Jan. 31, 1934.

In view of the large excess reserves possessed both by member and by reserve banks on the date of the report, it is hard to foresee any occasion in which use should be made of these powers. To remove them by legislation would serve to allay fears of inflation, particularly on the part of orthodox thinkers.

¹ See *Federal Reserve Bulletin*, January, 1941, pp. 1-2. See also in the same issue, pp. 12-19, "Economic Preparedness for Defense and Post Defense Problems," by Marriner S. Eccles.

RESERVE REQUIREMENTS OF MEMBER BANKS

In the reserve system's report, the signers advocated two measures in respect to member bank reserve requirements. In the first place, it was advocated that Congress should provide that minimum reserve requirements be lifted to the highest levels then within the discretion of the Board of Governors to establish. If this were done, reserve requirements for central reserve city banks would be lifted in the case of demand deposits from $22\frac{3}{4}$ to 26 per cent; for reserve city banks from $17\frac{1}{2}$ to 20 per cent; for country banks from 12 to 14 per cent. For all member banks the reserve percentage on time deposits would be lifted from 5 to 6 per cent.¹

An examination of excess reserves now possessed by the different classes of member banks indicates that no extensive readjustment of member bank assets would be necessitated by the enactment of such a statute. In particular instances banks would be obliged to sell some of their assets. But they should be in a position to do this without serious hardship if their investment policy in regard to the distribution of maturities has been conservative. It is further to be kept in mind that banks have been on notice since the Banking Act of 1935 that their reserve requirements might be lifted to the levels suggested above.

The second proposal *in re* member bank reserves was that, after the above increases, a system agency should be empowered at its discretion to raise reserve requirements to levels not more than twice those stated above. Such authority would give the reserve system power to reduce excess reserves to an amount at which, if there were no further increases in the amount of their reserves, they could be controlled by the exercise of the system's remaining powers, the principal one of which would be to sell from the system's portfolio of government securities.

Prospects of obligation to maintain reserve percentages at levels between 26 and 52 per cent (in the case of central reserve city banks) would undoubtedly create grave apprehension on the part of some member banks. But the effect of such an increase in reserve requirements would undoubtedly be to harden interest rates somewhat and thus lift bank earnings. To push up rates

¹ While the book was in press these increases were authorized by the Board, effective as of Nov. 1, 1941.

appreciably would increase the difficulty of maintaining present market prices for Treasury obligations. If so, appropriate action would be required to protect banks against such market depreciation. Soundly managed banks should possess an adequate volume of short-term assets, relatively immune to market fluctuations, and in such instances, at least, the examination authorities could be expected to continue to ignore market depreciation on the longer term issues in determining net sound capital.

An interesting question relating to member bank reserves is that of the prospects of a future increase in demand deposits relative to time deposits. Perhaps time accounts will be drawn upon the more heavily by subscribers to Treasury issues. Such funds will then be paid over to contractors and manufacturers, who will probably find it necessary to maintain larger balances in the form of demand deposits (on account of the increasing scale of their business). If an appreciable shift to demand accounts thus develops reserve requirements will be larger. But such developments could be taken into account in fixing future reserve percentages.

There can be little dispute over the third proposition, that nonmember banks should be made to conform to the same reserve requirements as are imposed on member banks.

MISCELLANEOUS PROVISIONS IN THE REPORT

If member bank reserve requirements are increased a considerable transfer of balances from city correspondents, particularly those in New York and Chicago, to the reserve banks could be expected. If this should occur, the volume of reserve balances possessed by city correspondents would decrease. Since, at the time of the report, the excess reserves possessed by banks in the reserve and central reserve city banks were so much larger than those of country banks, such a reduction would be less injurious than if reverse conditions obtained.

But there is the question whether some further means should not be employed to effect a transfer of balances from city correspondents to the reserve banks. In the special report of the system to Congress it was recommended that deposits maintained with reserve banks should be exempted from assessments by the Federal Deposit Insurance Corporation. Such a provision, if

enacted into law, would operate to reduce the attractiveness of bankers' deposits to city correspondents and tend to bring about some reduction in the reserve balances of these banks. Presumably this would tend to increase interest rates in the financial centers. This rise in interest rates would tend to offset to some extent the losses to city banks resulting from the transfer of these banker's balances to the reserve banks. The banks, however, which originate the deposits would find their F.D.I.C. assessments reduced.

This proposal to exempt deposits at the reserve banks from F.D.I.C. assessments can be supported also by the argument that it is not fair to require banks to pay an assessment on deposits fully secured by balances that earn no interest. The higher a bank's reserve balance the less is the necessity for F.D.I.C. protection of its deposits.¹

In the opinion of the writer, however, the principal justification for this proposal is that it would operate to make clearer to the reserve authorities the real reserve position of banks. As long as large deposits are kept with private institutions figures of excess reserves do not indicate precisely the ability of particular banks to sustain an increase in reserve requirements.

The system's proposals also would involve repeal of the power of the Treasury to monetize silver purchased from abroad. The wisdom of this suggestion will be questioned by almost no economist.

In the matter of gold, the reserve authorities did not advocate any reduction in the Treasury purchase price. But it was recommended that "means should be found to prevent further growth in excess reserves and in deposits arising from future gold acquisitions." Whether improvements can be devised over the type of sterilization that was applied in 1936-1937 was not indicated save perhaps in one respect. In referring to such operations of the Stabilization Fund as might have an effect on the excess reserves of the banking system, it was suggested that "it would be advisable if it were done only after consultation with the Federal Reserve Open Market Committee." All this is in line with the theory that responsibility for the control of the forces affecting excess reserves should not be diffused among dif-

¹ In similar fashion it might be contended that cash in vault should be deducted from deposits in the calculation of F.D.I.C. assessments.

ferent agencies unless such agencies are required to exchange information and opinion. It is very likely true that in placing the authority over the stabilization operations outside the Federal Reserve System we in this country paid too much attention in 1934 to the English pattern and failed to take sufficiently into account special circumstances prevailing in Britain. England, in 1932, did not find it feasible to change the Bank of England's purchase price of gold. To permit the purchase of gold at varying prices it was found expedient to create a new agency, the E.E.A. The British E.E.A., aside from selling its gold or foreign currencies, could obtain its sterling resources only by selling treasury issues in the English markets.

INCREASING THE RESPONSIBILITIES OF THE FEDERAL RESERVE OPEN MARKET COMMITTEE

What particular body in the Federal Reserve System should exercise the principal discretionary powers that were recommended? In three particulars it was urged that powers be conveyed to the Federal Reserve Open Market Committee. This committee would be authorized to increase reserve requirements beyond the levels at which they would first be fixed by statute; it would be consulted if stabilization fund operations should affect member bank reserves; its counsel would have to be obtained by the appropriate authorities if continued gold imports should threaten to affect member bank reserves sharply.

Why was it suggested that these powers be conveyed to the Federal Open Market Committee instead of to the Board of Governors? A minor consideration may have been the fact that the report was signed not only by members of the Board of Governors, but also by the presidents of the reserve banks, as well as by members of the Federal Advisory Council. The only body in the system that is composed of representatives both of the Washington Board and of the district banks is the Open Market Committee. But the proposed delegation of power to this committee very likely means something more than mere deference to diplomacy. It probably signifies that, in the creation of this body, which did not exist prior to the Banking Act of 1935, a more or less satisfactory solution has been found for that perplexing problem which had been encountered from the time of the first draft of the Owen-Glass bill regarding the

proper division of power between presidential and district bank appointees.

Will legislation go so far as to convey powers to this committee to fix the reserve requirements for the nonmember banks? The report merely recommended that the reserves for these banks be established at the same levels as apply to member banks. But this recommendation does not make clear the conditions under which reserve requirements of nonmember banks would be regarded as the equivalent of those of member banks. It would seem to be necessary to place upon some body the responsibility of determining the extent to which cash above certain levels or deposits with city correspondents would be regarded as the equivalent of Federal reserve deposits.

Perhaps state legislatures, as the New York Banking Board has recommended in New York, will adjust their reserve requirements so that they may be made to conform closely to those applying to member banks. If so, little necessity will arise for definitive legislation. But if conforming changes in state statutes are not forthcoming the necessity will arise for legislation that will fix responsibility for enforcement. Under these circumstances it is more or less certain that the F.D.I.C. will request this power. In a variety of respects this agency has been contending that it is the logical authority to supervise nonmember banks. Whether the office of the Comptroller of the Currency can maintain its influence, pinched as it has been between the reserve system on the one hand and the F.D.I.C. on the other, is an interesting question related to the future placement of supervisory controls in our banking system.

PROSPECTS OF THE ADOPTION OF THE RESERVE SYSTEM'S PROPOSALS

What was the immediate reaction to the issuance of the special report of the reserve system? It seems to have made a generally favorable impression upon monetary and banking students. According to the press reports, however, approval in official circles has not been entirely unanimous. On Jan. 8, 1941, Mr. Jesse Jones, Secretary of Commerce and Federal Loan Administrator, was reported as opposed to the proposals on the ground that they would curtail the lending power of the banks to an undesirable extent. On the following day, the Secretary of the

Treasury, Mr. Morgenthau, expressed concern lest the program affect the market for government securities in an adverse manner. Mr. Morgenthau was quoted as opposed to any artificial method of raising interest rates. Evidently he regards any interference with a condition of abnormally low rates as an arbitrary imposition of high rates.

In the long run, however, fundamental considerations will govern the market price for government securities. The Treasury will be obliged to choose between policies which will make the securities issued by it acceptable to the saver and those which will provide only for the maximum ease in manufacturing new dollars for use by the Treasury. Inflationary developments, by threatening the purchasing power of the bond buyer's interest and principal, will make bonds carrying low interest rates more unpalatable to the saver. The dollar volume of the public debt that will emerge from the present crisis is not a factor that should be blithely ignored. Once credit is out there is little the reserve banks can do to control its use. The proper time to exercise controls is before an excessive volume has come into being.

There is little economic argument for abnormally low interest rates in a period in which the government's purpose is to direct all releasable effort into armament production. It is only when our economy is functioning far below maximum capacity that support can possibly be found for so depressed interest rates as have prevailed.

Low interest rates may stimulate nonmilitary activity. But we do not want the demands of civil consumption to compete unnecessarily with our armament efforts, and the state of the loan market has little to do with the ability of the government to let contracts and require their fulfillment. In appraising the wisdom of the system's proposals it is also necessary to bear in mind the fact that, if too severely restraining measures are at first employed, they can easily be reversed at a later time.

CHAPTER XXXVII

THE 100 PER CENT RESERVE PLAN

THE INEVITABILITY OF THE PROPOSAL TO REQUIRE 100 PER CENT RESERVES AGAINST DEMAND DEPOSITS

Present reserve requirements against bank deposits have not been devised as a result of any fundamental analysis of the American credit system. They have been largely the consequence of historical irrationalities.¹ In the early days of state banking development legislative bodies understood that proper protection against bank note issues required adequate "capital," but it was only slowly perceived that capital does not necessarily represent liquid assets. As this confusion abated, various state legislatures required minimum reserve ratios against notes in circulation. For reasons given it was not at first regarded as so necessary to compel reserves to be maintained against deposits. When the national banking system was organized, provisions were adopted whereby note issues of national banks would be secured by government bonds. It was not illogical, therefore, that notes should eventually be removed from reserve requirements and that reserves should be required only against deposits. In the course of time special considerations led Congress to change the required reserve percentages. Thus, in the Federal Reserve Act of 1913, member bank reserves were lowered on the theory that they need not be so great in a banking system supplemented by a set of regional institutions of discount. Again, in 1917, reserves were lowered to make the new requirements more acceptable to banks which henceforth were prohibited against counting vault cash as legal reserve. In 1936-1937 reserve requirements were increased by action of the Board of Governors of the Federal Reserve System in order to eliminate a part of the existing excess reserves. Later in 1937, however, a portion of the increase in required ratios was removed by the Board.

This brief sketch, in which there are omissions, should indicate the impossibility of defending the position that existing require-

¹ See above, Chap. XXI.

ments have been scientifically determined and on this account should be unaltered. But if they should be expected to change in the future, exactly what should the new requirements be? If, in answer to this question, it should be decided to give a governmental agency complete control over the outstanding volume of redemption currency, the fractional reserve principle might be superseded. One hundred per cent reserves could then be required against deposits and enough redemption currency issued to provide the necessary reserves.

Under this plan banks would always be able to redeem demand deposits fully in circulating currency. Holders of demand deposits would not therefore have to be alarmed, as they were in 1932, regarding the ability of their banks to redeem deposits on demand.

From still another point of view the inevitability of the 100 per cent reserve plan is indicated. One of the functions of note issues is to enable banks to provide currency payable to bearer. Gradually, under the Federal reserve system, the security against which Federal reserve notes may be issued has been widened. Even in the early days of the system eligible paper was interpreted perhaps more liberally¹ than the lawmakers anticipated. By the Glass-Steagall Act of 1932 provision was made for the issuance of Federal reserve notes against even the security of government bonds. The general trend of note issue legislation in this country has certainly been away from the idea that carefulness in bank credit extension should be enforced by the prospect that, in time of emergency, a sufficient amount of circulating currency would be unobtainable. When the emergency arrives earlier restrictions will almost certainly be removed. Why not, then, establish a system according to which no doubts would ever exist as to the redeemability of deposits in circulating currency? Why not require deposits at all times to have a complete 100 per cent backing?

Yet another recent development seems to suggest the logicity of a 100 per cent reserve system. Since 1933, largely as a consequence of huge gold imports and silver purchases, bank reserves have risen far above legal requirements. On Mar. 13, 1940, excess reserves amounted to 5.7 billion dollars, or $\frac{7}{8}$ of required reserves. If undesired inflationary tendencies should develop

¹ See Harold L. Reed, *The Development of Federal Reserve Policy*, Chap. IV.

it might become necessary to step up reserves sharply. The further reserve ratios should thus be increased, the more clearly would it be suggested that requirements be enlarged to the point at which deposits would be fully backed by reserve holdings.

But there is still more to say in the matter of the inevitability of the 100 per cent reserve suggestion. Experience seems to indicate that the Federal Reserve System has not had as great power to control the outstanding (the public's) supply of currency and credit as was anticipated at the time of the passage of the act. The Federal reserve banks operate principally to increase or decrease member bank reserve balances. In times of excessive credit expansion, the reserve banks, by vigorous action, possibly have sufficient powers of restraint. They can increase discount rates, sell government securities, raise¹ margin requirements on security loans, and arbitrarily refuse to grant accommodation to member banks. In periods of liquidation, however, the reserve banks' powers to increase the use of credit are narrowly restricted. Even though they are provided with excess reserves, the member institutions may be unwilling to lend or invest freely because of doubts as to the ability of the borrower to repay or because of apprehensions lest the market price of securities fall. In such a situation it is contended that there should be an agency provided with powers to increase the public's supply of currency. If this currency should be deposited with banks the public's holdings of deposit credit would be proportionately expanded.

In any event, however, the experience of 1932 and 1933 could not fail to suggest to some students that our currency system should be so reorganized that fears of the public regarding the redeemability of bank deposits could not result in currency contraction. A withdrawal of a deposit under the 100 per cent plan would only change the kind and not the amount of currency the public would hold. More pocket and till currency would offset the reduction in deposits.

The installation of a deposit insurance system in 1933 was intended, of course, to obviate such contraction of the bank credit volume during periods of depression. But there are many objections to the deposit guarantee plan. The principal objection is that it is unfair to compel soundly managed institutions

¹ That is, the Board of Governors can, under the authority given it by the Securities Exchange Act.

to pay assessments to enable the insurance corporation to meet deposit withdrawals in banks whose failure might be attributed to pursuance of unsound lending and investing policies.

PUTTING THE 100 PER CENT PLAN INTO OPERATION

How would the 100 per cent plan be set up and how would it change existing bank procedure? The first necessity would be to create an agency armed with power to issue to the banks enough currency to provide a 100 per cent reserve against their demand deposits.¹ Under the plan time deposits would require no legal reserve. The 100 per cent requirement applies solely to demand deposits. This agency might be a new organ of the government and bear some such title as "the Currency Authority." Or the prerogatives of the Federal Reserve Board of Governors might be expanded so as to include such powers as would be required. In this discussion we shall assume a new agency is set up, under the title of the Currency Authority.

To what extent would it issue currency to the banks, and what would it receive from the banks in exchange therefor? Under the preferred variety of the plan the Currency Authority would purchase earning assets of the banks. Thus on Dec. 30, 1939, demand deposits² of all member banks amounted to 25.1 billion dollars. On this date reserves with the reserve banks plus cash in vault amounted to 12.4 billions. If the plan had gone into operation on this date it would have been necessary for the Currency Authority to purchase 12.7 billion dollars of member bank earning assets.

Which particular assets would have been purchased? Most advocates of the plan do not offer it as a means of putting the government in the banking business. The assets that would be purchased, therefore, would first of all probably be government securities, which on this date amounted to 11.1 billions. The remaining 1.6 billions of assets of satisfactory quality could be largely found in member banks' holdings of "other securities," then aggregating 2.9 billions. It must be borne in mind, however, that under the plan it would be necessary for each particular

¹ Some advocates of the plan would not have the agency issue all the necessary currency at once. It would merely be committed to issue currency to the amount necessitated by requirements.

² Excluding interbank deposits and with certain adjustments made to determine the public's holdings.

bank to hold a 100 per cent reserve against its demand deposits. The Currency Authority, in other words, would not be dealing with a single bank whose assets and liabilities would be equivalent to the aggregate held by all member banks on December 30, 1939. Some banks might not hold sufficient government or other securities. In these cases it would be necessary for the Currency Authority to acquire a portion of their loan assets.

The purchase (on Dec. 30, 1939) of 12.7 billions of member bank assets by the Currency Authority out of total loans and investments of 33.9 billions would reduce sharply member bank earnings. What revenues, if any, would be substituted for the lost yield? The usual answer of the 100 per cent reserve advocates is increased service charges. No longer, under the plan, would the borrower from the bank by his interest payments provide such a large portion of the earnings required to defray the expense of holding demand deposits and providing for their transfer. Demand deposit banking would be divorced from lending and investing. The demand deposit department of a bank, perhaps separately incorporated, would hold cash or reserve credit substantially as its sole assets and demand deposits as its sole liability. The writing of a check against a demand account would result in the loss by the drawee bank of the amount drawn and the transfer of equivalent reserve funds, through the clearance process, to the depository institution.

The time deposit department of the bank, also perhaps separately incorporated, would henceforth be the principal bank to make loans and purchase investments. It would not be required to hold any cash or reserve credit or currency. The time deposit department would have such earning assets as it had on date of incorporation,¹ plus such further funds as holders of demand deposits might transfer to it. The time deposit department would operate, in other words, more or less as an investment trust.

CONTROL OF THE CURRENCY VOLUME

What could the Currency Authority do to make more credit available to business and other users of credit? It would be provided with power, first of all, to emit its own issues, which would be full legal tender currency. This currency could be

¹ Largely noncash assets.

issued to the public in exchange for government securities. The currency thus issued might be deposited by the public in demand deposit banks. Demand deposits would now be enlarged, but the bank's holdings of redemption currency would increase in equal volume. Holders of these accounts could then transfer them to the time account department, which would be in a position to increase its loans or investments to a similar extent. In opposite fashion, the sale of securities by the authority would reduce the outstanding volume of demand accounts and discourage their further transfer to the time department.¹ The principles the Currency Authority would be expected to follow in such operations could be prescribed by legislation. The objectives might be the maintenance of a stable price level, the preservation of a gold standard, the encouragement of full employment, the avoidance of speculative excesses, or the maintenance of the currency volume at an unchanging level.

Would the plan provide a more effective machinery than that now in existence to control the effective supply of currency in use? So far as the total, as distinguished from the effective, supply of currency and credit in existence is concerned, there is little question but that a more efficient machinery would be provided. Under the proposed plan the Currency Authority would be in a position to influence directly the public's holdings of currency and bank deposits. Dependence would not have to be placed solely on the results of changing member bank reserves, as under the fractional reserve plan.

ABILITY TO CONTROL LOANS AND INVESTMENTS

But what use, under the plan, would the public make of its deposit holdings? In times when an expanded use of credit is desired would the public transfer demand accounts to the time deposit department or elect to hold larger balances in the form of demand deposits? Here the public might not react in the desired manner. Furthermore, even though time deposits should increase, the managers of the time deposit department might also decide to stay in cash. Their motive in thus operating would be

¹ Or the sales might be made to the time deposit banks. In this case the time deposit bank would remit a check against its demand account so that collection of the check would reduce the outstanding volume of demand deposits.

the same as that which is now inducing many banks to hold large excess reserves. It is not shrewd to invest when it is probable that a future decline in the market prices of securities that are held will consume interest earnings of several years.

This difficulty of translating the intentions of the Currency Authority into effective action might be increased by several other factors. One of these would be that time deposits might not result from a resolution of the depositor to be a permanent saver. The attitude of the time depositor might very well be that, if future demands for current funds should arise, time deposits could be reconverted into demand accounts. To be in a position to meet such withdrawals the time deposit department would be obliged to stay heavily in cash, more so of course in some situations than in others. In such a situation it would not be prudent for the time deposit bank to invest to the maximum amount possible. To guard against such a difficulty some of the leading advocates of the 100 per cent plan have advocated that there be a strict observance of the rule against withdrawals from time accounts except by giving adequate notice. Perhaps the period from notice to withdrawal might be lengthened to six months. Those who provide the time deposit bank with funds would thus be compelled to regard themselves as permanent lenders. If time deposits by these means should be restricted, the growth of specialized lending institutions outside the bank would be stimulated. The character of the operations of these outside investment institutions could be adjusted so as to provide the type of investment facilities different classes of investors might desire.

If stringent precautions against withdrawal of time deposits from banks, or against encashment of equity rights in investment institutions, were enforced, however, the preference for demand accounts, particularly in periods of market uncertainty, might be accelerated. To the extent this should occur it would be all the more difficult for the currency authority to control the volume of loans and investments. Time deposits would lose a part of their appeal if a decision to be a time depositor had to be made definite and irrevocable. In setting up the system choice would have to be made between, first, making it easy to reexchange time deposits for demand deposits (as would be done if little notice of withdrawal should be required) and, second,

preventing withdrawals by rigid rules but on terms that would make time deposits less attractive.

The more thoroughly the actual operation of the plan is envisaged the more serious do the above-stated difficulties seem to be. In the last analysis the impediments now in the way of transforming excess bank reserves into increased deposits at member banks are identical with the difficulties that might be experienced under the plan in getting the public to commit its deposits to lending and investment institutions.

If all this be correct, the argument in favor of the adoption of the plan would resolve itself into the question whether it would be worth while to set it up for the purpose of benefiting from its one unique advantage. The plan would prevent the public from destroying the currency volume outstanding by getting panicky and demanding the conversion of its demand deposits into cash. After such conversion, under the 100 per cent plan, reserve ratios would not be impaired. Deposits and reserves would be equally reduced if there were withdrawals, but the ratio of deposits to reserves would still be one to one.

IS THE PLAN NECESSARY UNDER PRESENT CONDITIONS?

Would it be worth while to set up the plan solely to guard against the danger that a preference by the public for cash might result in a several-fold contraction for deposits? To answer this question it is necessary to consider briefly the following related problems:

1. Is deposit liquidation of serious degree likely to arise under the present banking system, changed as it has been by various statutes enacted since 1932?

2. Would the 100 per cent plan make it possible to do away with the objectionable features of the present guarantee system?

Panicky efforts of the public to convert deposits into currency are less likely to develop now than in 1932-1933 because of the insurance of bank deposits by the F.D.I.C. It is true that, under this system, deposits are insured only to the amount of \$5000 for a single depositor. But larger depositors have some guarantee that, as long as insurance is provided, the assets of the bank are sufficiently sound to make a sudden lapse into insolvency improbable. The F.D.I.C. will not guarantee even the small deposits of banks known to be insolvent. Furthermore,

insolvency need not now result merely from a market decline of high-grade investments. In the case of class I securities the present formulas permit these fluctuations to be ignored in computing net sound capital. Market losses even on class II securities need not be taken entirely in a single examination period.

Possession of sound assets, however, it may be argued, does not guarantee the ability of the bank to withstand losses that result when deposit withdrawals force the sale of assets in a weakening market. Banks insured by the F.D.I.C., however, are expected to maintain a sufficient volume of short-term assets, the type immune to wide market sweeps, to meet withdrawals within ordinary expectations. If such withdrawals are easily met, depositors' nervousness should be quickly allayed.

But the existence of the F.D.I.C. is not the only important respect in which the immunity of the banking system to deposit withdrawals has been increased since 1932. Assets need not necessarily be sold to obtain currency to meet withdrawals. A wider variety of bank assets may be rediscounted with the reserve banks or used as security for direct borrowings, and against these assets, even though they be Federal government securities, note currency may be issued by the reserve banks. Sound assets of an extremely wide variety may now be converted into currency. Present note issue systems have been subjected to serious criticism because of their liberality. But the point is that existing note issue provisions are not totally unlike the 100 per cent reserve plan. From the point of view of the bank depositor, what is the difference between the prior acquisition of sufficient currency to meet withdrawals and the ability to obtain this currency in periods of necessity?

From the standpoint of earnings, advantage seems to lie on the side of easy convertibility of bank assets into currency and against the system of prior acquisition of the bank's earning assets by a Currency Authority. Under the present setup banks do not lose their assets until an emergency develops. The existence of present issue powers, moreover, may prevent the emergence of difficulty. Under the existing banking system the necessity of surrendering income now obtained by the holding of assets and of substituting doubtful new sources of revenue, such as greatly expanded service charges, would not arise.

It has been pointed out that, in practice, the insurance system has resulted in many instances in the guarantee of the large, as well as of the small, deposits. If an insured bank's sound capital is regarded as insufficient, liquidation is not necessarily required. Either new private capital may be summoned or plans may be worked out whereby the R.F.C. will supply preferred stock or capital notes.

Advocates of the 100 per cent plan, however, generally inveigh against the existing deposit insurance plan. They emphasize principally the classical objection against making losses of poorly or unfortunately managed institutions a charge against others more conservatively administered. The unfairness of the insurance system, they thus maintain, would be removed by creating a system under which demand deposits would always be completely liquid.

Whatever the student's opinion about the fairness of a deposit insurance plan, it is necessary to keep in mind that for the time depositor, under the 100 per cent plan, increased uncertainty would prevail. It is the time deposit bank which would be the capital-supplying institution, and deposits therein would not be insured. If the time deposit bank, moreover, should permit easy withdrawals, the flow of capital to industry might easily become more unsteady than it now is. If, on the other hand, efforts were made to guard against the withdrawal of time deposits by requiring long notice, the placement of savings in time deposits might be seriously impeded. In the opinion of the writer the 100 per cent plan offers very little that cannot be reasonably well provided under the present system. On the other hand, it has the disadvantage of compelling bankers to find doubtful sources of revenue for those which would be lost by surrendering assets to the Currency Authority. Difficulties of effecting a changeover to the new system would also be serious.

DIFFICULTIES INHERENT IN THE PLAN

The nature of these transitional difficulties has already been outlined. Under the 100 per cent plan the first problem bears on the type of assets the Currency Authority would acquire. Presumably the Authority would purchase the soundest of bank assets. Otherwise, the country's circulating currency would rest on relatively unsound assets, and the government, by owning, through

one of its agencies, a wide variety of private obligations, would gain a degree of control over private industry that should never be acquired as a by-product of a plan advocated solely to insure the complete redeemability, without volume contraction, of deposits into currency. If government control of private credit is desired it should be consummated by direct, instead of indirect, argument. If the Currency Authority, on the other hand, should confine its acquisitions to the sounder assets time deposits would rest on the security of more vulnerable assets and capital provision might be rendered more precarious.

Before accepting the plan blithely the wisdom and justice of increasing service charges to the demand depositor should also be thoroughly explored. On the practical side there would be the question whether any considerable increase in service charges would not lead to a use of bearer currency to a degree that would be undesirable. The check book, as distinguished from bearer notes, lessens risks of loss and robbery. It would not be in the direction of progress to withdraw from the check system. On the theoretical side, the depositor by his waiting perhaps earns the right to relatively free use of his account. What a bank really does is to gather up the supply of waiting in a community and to make the proceeds available to the borrower. The bank, in other words, is principally an intermediary. The real lender is the depositor. In return for his waiting the depositor puts his bank in a position to make interest-bearing loans to borrowers. The reward for the depositor is the safekeeping of his funds and the opportunity to transfer them without great cost as necessity for their use arises.

SUGGESTIONS ADVANCED TO LESSEN THE FORCE OF OBJECTIONS TO THE PLAN

To overcome some of the difficulties of the plan many ingenious suggestions have been made by its proponents. Instead of acquiring banks' earning assets, Professor James W. Angell¹ would have the Currency Authority make a loan of cash without interest. Others would permit banks to count, up to a specified amount, government securities as the equivalent of cash reserves. Suggestions like the above indicate how close the plan is to the

¹ "The 100 Per Cent Reserve Plan," *Quarterly Journal of Economics*, November, 1935, pp. 1-35.

present system in which Federal reserve notes can be issued on the security of a wide variety of assets. Lauchlin Currie¹ has suggested that, to obviate serious increases in service charges, the government might lease the quarters of the demand deposit banks. This rental payment would take the place of the revenues lost by transferring interest earning assets to the Currency Authority. If this were done argument would be concerned with the relative merits of taxes required to meet the rental payments and increased service charges.

Proponents of the plan also differ regarding the place in the capital credit system that would be occupied by time deposit departments of banks. So far as banks are concerned all the new lending would be done by time deposit departments, and these departments could lend only the amount of funds entrusted to them. To make these departments reasonably stable depositories it might be desirable to confine them to operations quite similar in nature to those of existing mutual savings banks. Greater risks, however, might be permitted for specialized investment institutions created for the purpose.

Undoubtedly advantage would be derived from a better integration of investment agencies in that individual investors would be able to find the institution whose operations would best accommodate their particular needs and tastes. But no system can guarantee a steady flow of credit to industry. Preference for cash, at particular times, cannot be ignored. This, of course, is only another way of saying that it is just as important to stabilize the use of bank credit as its volume. The maintenance of a steady flow of credit to industry is a problem lying in the general field of economic policy rather more than in that of the desirable structure of our banking system.

ORIGINATORS OF THE IDEA

The 100 per cent plan has been formulated in various guise as a result of suggestions emanating from many sources. Mr. William J. Bryan's speeches in the campaign of 1896 reveal his opinion that there is something tricky about banking when deposits are largely offset by noncash assets.² In 1921, the plan was enunciated by a Professor of Chemistry in the Uni-

¹ *The Supply and Control of Money in the United States*, p. 153.

² See *The First Battle*.

versity of Oxford, Mr. Frederick Soddy.¹ In 1933, Professor Henry C. Simons of the University of Chicago presented a 100 per cent reserve plan in mimeograph form. Under Simons' plan, the Federal Reserve Board, instead of a newly constituted Currency Authority, would have control over the system. Simons also envisaged dependence on a number of specialized investment institutions to buttress the work of the time deposit bank. More or less independently the principles of the plan were suggested by Mr. Lauchlin Currie in 1934. Since then² Professor Irving Fisher has published a description and an enthusiastic defense of the plan. Professor Frank D. Graham has become a supporter,³ and Professor Angell's ingenuity in modifying the details of the plan has increased interest by lessening the force of some of the practical objections.

Some economists have had their cordiality to the plan strengthened by auxiliary features. As indicated previously, the difficulty of reducing the Federal government's debt might be eased by having the Authority issue enough new currency to enable it to purchase Treasury obligations outstanding. After they are thus purchased these obligations could be cancelled. By stepping up reserves to the 100 per cent level the possible inflationary consequences of this operation would be eliminated or, at least, abated.

THE PLAN AS A DEVICE TO REDUCE THE PUBLIC DEBT

This last justification of the plan has never commended itself to the writer. Trick devices for reducing a heavy debt might on occasion succeed. When these tricks have been exhausted, nothing remains except to rely on the discretion of lawmakers to support the fisc out of revenues withdrawn from private incomes. But this discretion can little be counted upon if successful and painless methods of escaping from unsound expenditures have previously succeeded. The 100 per cent plan should be appraised solely from the point of view of its unique characteristics, making at all times demand deposits completely liquid and giving a governmental authority increased power to control the outstanding volume of currency and bank credit.

¹ *Wealth, Virtual Wealth and Debt.*

² *100% Money.*

³ See "Achilles' Heels in Monetary Standards," *American Economic Review*, March, 1940, pp. 16-32.

CHAPTER XXXVIII

KEYNESIAN AND OTHER DOCTRINES THAT STRESS THE RELATIONSHIP OF SAVINGS AND INVESTMENT

INCREASING VOGUE OF RADICAL MONETARY DOCTRINES

Previous pages have indicated the startling extent to which unorthodox monetary policies have been pursued in the United States since 1933. In that year this country elected to accelerate the depreciation in the foreign exchange value of the dollar by its gold buying measures; in early 1934 it stopped the process of lifting the dollar value of gold, but at a level 59.06 per cent in excess of the former gold price; in 1933 and 1934 measures were undertaken which eventually resulted in the addition of hundreds of millions of dollars of silver to the monetary circulation; and the Thomas inflation bill of 1933 authorized the issuance under certain circumstances of 3 billion dollars of greenbacks. From 1933 to 1941 the excess reserves of the member banks of the Federal Reserve System rose, principally as a consequence of gold imports, to the amazing figure of more than 6 billion dollars.

The extremeness of these measures requires one of two interpretations. The first is that temporary economic difficulties were so awesome as to convince our policy-makers that long-term consequences must be disregarded. The second interpretation is that new and authoritatively conceived monetary doctrine was developing with the implication that the existing economy requires, if it is to function adequately, cheaper and more abundant credit than earlier experience had suggested as necessary.

As a matter of fact, doctrines of the latter persuasion had been gaining wide acceptance in professional economic circles, largely perhaps because they were much more intriguing intellectually than the more conservative theses they were intended to displace. John Maynard Keynes, the author of the *Treatise on Money* and the *General Theory of Employment, Interest and*

Money, whatever else may be said, certainly succeeded in relating monetary factors more closely to all those processes determining the volume of output and employment than most promulgators of orthodox monetary doctrines had attempted to do. This contrast in analytical skill between Keynes and his disciples on the one hand and the conservatives on the other was further enhanced by the conviction of many conservatives that it was positively immoral for a country deliberately to alter the gold content of its monetary unit.¹ To take such a position imposes no heavy burden on the economist. The older and extremely orthodox views, it must be confessed, well deserved many of the taunts like that of Joan Robinson that the general objective of central banking policy seems to have been to impede the full utilization of our economic resources.

The above is not intended to prejudge the issues. What is intellectually uninteresting, and defensible only by appeals to experience and traditions, is often sounder than that which is more intriguing and intricately reasoned. But, by 1933, the inroads of the depression had prepared the minds of statesmen for policies in the support of which the "new" liberal doctrines supplied an intellectual justification.

We cannot here go far in the exposition of Keynesian views. To do so would require us to invade the related fields of cyclical analysis and the determinants of employment and output. But an approach to the understanding of the Keynesian doctrines is required if for no other reason than to provide an intellectual apology for recent monetary policies.

INCREASING IMPORTANCE OF LOW INTEREST RATES

Assume the dominant spur to enterprise to be prospects of entrepreneurial profits. What forces will determine whether in an existing enterprise and at a particular point in time more capital will be invested occasioning additional employment of labor? Or, in a new enterprise, how much initial investment of capital will take place?

Many forces will operate, of course, but these can be summarized under the heading of the (anticipated) marginal productivity (efficiency) of capital. That is, in pure theory, there

¹ The author never took this position. His adverse criticisms of our 1933 gold policy were based on other considerations, as suggested in Chap. XXXIII.

will be a tendency for capital investment to be carried to the point at which the yearly value of the marginal increment of production will be equaled by the per annum cost of the capital required for the marginal product.

What can be done, as a matter of central banking policy, to increase capital investment in a period of incomplete utilization of labor and the other factors of production? The answer would seem to be to operate in such a way as to reduce interest rates. At a certain interest rate level it will be unprofitable to increase capital investment as greatly as if costs of acquiring capital were lower. Conversely, at a 4 per cent rate, capital investment should proceed further than at a 5 per cent rate, just as a 3 per cent rate would be expected to induce more capital investment than a 4 per cent rate.

In a period of incomplete employment can enough capital investment be stimulated solely by reducing the (complex of) interest rates? The principal difficulty inherent in this procedure is the fact that, when interest rates have fallen to a low level, lending of liquid funds tends to become less attractive to their owner (the capitalist). Why should liquid funds be offered on such security as the (expanding or new) enterprise can offer when the rate of return is only 2 or 3 per cent on the positive side of zero? Adequate compensation for risk, in the opinion of the owner, is perhaps not provided. Shrewd investors, familiar with market swings, know that investments may easily depreciate in a single sell-off by an amount that exceeds all the interest accumulations of the prepanic years. Investment experience, in other words, has supplied numerous and powerful illustrations of the advantages of keeping capital holdings liquid (available for use in periods of depressed investment values). Aside from the opportunities to purchase investment holdings at a panicky price, "liquidity preference" is further encouraged by the growth of riches that has been an incident of capitalistic development. As wealth increases there is increasing emphasis on the preservation of the principal and less willingness to assume risks for a slightly enlarged return.

A high preference for cash and those forms of investments which guarantee easy and relatively certain conversion into cash creates therefore a situation in which funds not spent on consumption goods may not get fully invested in capital projects

either. When this condition exists, all a central bank can do to increase capital investment is to provide enough cash to satisfy liquidity preferences and thereby make the attendant low rates of interest more effective in stimulating capital investment.¹

A central bank, however, may not have sufficient contact with the public, because it operates principally with banks. The most it then can do in such depressed situations is to try to keep the interest rate low and hope that "natural forces," such as invention and innovation, will increase the "marginal efficiency of capital." If sufficient stimulation is not provided in this way, and the test, it is asserted, should be the extent to which the country is employing its productive resources, still other measures should be invoked (most of them by the government). Increased expenditures by the government will be helpful in that they will either bring new currency into being or render active otherwise hoarded funds of individuals. The power of the fisc to attract hoarded capital depends on the fact that it can offer an issue of high security or even employ the taxation device.

ROLE IN KEYNESIAN DOCTRINE OF GOVERNMENTAL INVESTMENT AND REDISTRIBUTION OF INCOMES

It is assumed in the above that government spending was contemplated for the purpose of increasing investment, as contrasted with consumption, type of expenditures. But under the Keynesian analysis an inability to secure enough private capital investment may have been due to insufficient consumption expenditures. The lack of an adequate consumption demand would impair the profitability of capital investment. When this condition is believed to exist governmental expenditures may be undertaken for the purpose of increasing consumption. Here benefits may be derived not merely from the injection of more currency into circulation, as when the Treasury borrows from the banking system, but also from the redistribution of wealth and income that results from taxation. Steeply graded and highly progressive income taxes, inheritance taxes, and excess profits levies, it is contended, and their expenditures by the government, will increase the portion of our total incomes that

¹ The term "investment," as used in this chapter, is not synonymous with operations, like purchases of stocks and bonds, by one party from another. In order that "social" investment may take place it is necessary that an entrepreneur obtain the funds and employ them so as to increase his output.

is spent consumptively. It is generally agreed that a large number of small incomes produce more consumption than a smaller number of higher incomes of the same aggregate amount.

The above may be summarized as follows: The use that we make of our productive resources depends on two general factors. First, there is the pull of investment (non-consumption) demands for capital (what Keynes calls the inducement to invest). Second, there is the factor of the intensity of demands for consumption goods (the propensity to consume). In an economy in which the propensity to consume is high, as in poor societies, the marginal efficiency of capital will be high and the inducement to invest perhaps sufficiently great to provide an outlet at a high level of employment for all savings out of income. In such a society an increased disposition to save would be socially desirable. Although employment is active this society remains poor because of the scanty supply of equipment goods with which it is provided. But as saving out of income increases and capital equipment is more extensively provided, the society, although it becomes richer, finds it difficult to employ its resources completely. A state may then be reached at which less saving and more consumption expenditure would be desirable. Unemployment in the midst of increasing productivity creates the gravest social problems, particularly in a system of free enterprise and of democratic political organization. The increasing liquidity preference must then be overcome by radical measures affecting the distribution of incomes or by injecting new currency into being if low interest rates alone are insufficient. The attainment of full employment is a more difficult problem in a rich than in a poor society. A mature economy, it is argued, must break away from the attitude toward a high disposition to save that is commendable for a poor society.

KEYNESIAN CONCLUSIONS MUST FIND INDUCTIVE SUPPORT

Is there any logical error in the Keynesian doctrine of output and employment? So far as the general argument is concerned, it is not clear that there is. In substance, Keynes is merely saying that, at a given "propensity to consume," investment outlets may be inadequate to maintain full employment. Those classical economists who asserted that savings are automatically and inevitably invested so as not to impair incomes were simply

wrong. On the other hand, the ability of a country to improve its living standards depends upon the extent to which its capital equipment is increased and improved; and there may be situations unlike those that Keynes presumes in which the lack of ability to save is the principal factor restraining improvement. The question simply is whether in fact the retarding factor is too high a disposition to save. Answer to this question cannot be provided by any type of logical analysis. Conclusions must rest upon deductions from empirical data.

What is the prevailing opinion of economists in respect to the ability of our existing economy, without any large measure of governmental investment, to absorb the amount of savings that would be forthcoming under full employment? The answer seems to depend largely on who the economists are that are consulted. Illustrations of conclusions not unlike those of Keynes are to be found in abundance in the addresses delivered at the 1938 annual meeting of the American Economic Association. In these addresses¹ the following characteristics of the existing economy were stressed:

1. Outlets for capital investment are contracting as a consequence of a decline in our rate of growth of population, in particular that of city population.

2. The character of technological improvements is changing toward a type that displaces labor, and does not create a contra demand in important new industries or improved processes of production.

3. Territorial outlets for capital investment are restricted in relation to what they were during the rapid and brilliant development of the nineteenth century.

4. Corporate pricing and managerial policies are not designed to encourage the reabsorption of labor displaced by technological improvements. In general, rigidly fixed prices prevent the expansion of the market that would occur if prices were promptly reduced as labor is displaced and costs are lowered.

¹ Compare especially Glenn E. McLaughlin and Ralph J. Watkins, "The Problem of Industrial Growth in a Mature Economy," and David Weintraub, "Effects of Current and Prospective Technological Developments upon Capital Formation," in the *American Economic Review*, supplement, March, 1939. See also Alvin H. Hansen, "Progress and Declining Population," *American Economic Review*, March, 1939, pp. 1-15.

Without doing more here than to refer the reader to these opinions, it must be admitted that much factual support for pessimistic doctrines was provided. So powerful was this support that many of the speakers at the 1938 meeting, in their policy suggestions, contented themselves with the bold statement that the Federal government must continue to provide a stream of artificially manufactured purchasing power by the method of deficit spending. So seriously were the existing obstacles to full employment regarded that few of the speakers even took the trouble to analyze the long-time consequences of deficit spending, or to suggest means of escaping from the debacle it is generally admitted must result eventually from continued deficits. As previously pointed out,¹ there is a question, obvious to every practical banker, whether the prevailing low interest rates are not retarding, instead of facilitating, sound credit expansion, but a question nevertheless that received no analysis whatsoever at the 1938 convention.

NON-KEYNESIAN INTERPRETATIONS OF THE EMPLOYMENT SITUATION

What, however, is the argument on the less pessimistic side? Readers who wish to see the most effective marshalling of data to establish the contention that it is the weakness of the disposition to save, rather than its strength, that has retarded progress are referred to Carl Snyder's *Capitalism the Creator*. The time that would be required to repeat Snyder's conclusions and methods of argument would exceed the limits of this work. We must content ourselves here in pointing out typical rebuttal answers to the special question—how explain the failure of the enterprise system to recover faster from the inroads of the depression of 1929.

Stock answers to this question include the following:

1. In the decade of the twenties the world never succeeding in reerecting on a sound basis the type of a world monetary system—the gold standard—that, in the nineteenth century era of progress, permitted geographical division of labor to be developed to its fullest extent.

2. The credit policy of the reserve banks in the decade of the twenties permitted security speculation to develop to such limits that a catastrophic break was inevitable.

¹ See above, p. 162.

3. This stock market debacle itself was a major deflationary influence. The market for new capital issues was destroyed, purchases of luxury goods were greatly reduced, and the security of a multitude of otherwise sound bank loans was impaired.

4. From 1930 to 1932 the Federal reserve banks employed only the most timid measures to stop the destruction of deposits.

5. The American credit contraction of 1929 to 1932 impinged on an economy weakened by lost foreign markets (largely an incident of reduced credit offerings to other countries) and further shaken by liquidations of weak and inadequately capitalized banks.

6. Deflation of prices in 1930 to 1932 was further accelerated by the appreciation of the dollar in terms of the currencies of certain foreign countries, as these latter nations went off gold.

The startling extent of the 1930 to 1932 depression and the feebleness of subsequent recoveries may be attributed to these special circumstances quite as easily as they may be offered in support of the pessimistic doctrine that this country's economy has approached maturity and must henceforth tend to stagnate. Although the evidence is not decisive it is the author's opinion that we today would be hearing little of economic maturity if only economic policies in the decade of the twenties had been different in a few important respects. Perhaps all that was required to permit the continuation of earlier progress was a cooperative and scientific return to the gold standard, instead of piecemeal restorations, the complete acceptance by the United States of its creditorship position in the world economy, superior bank supervision, and a consistently vigorous Federal reserve policy.

Anent this, however, we shall never know. About all that economic logic can do is to indicate processes that may have been at work and to show the nature of the empirical data that are required to interpret them. Keynes and his followers have not established their case. But neither have their opinions been demolished.

SHOULD THE "STAGNATION THESIS" BE ACCEPTED IN GOVERNMENTAL POLICY?

Should Keynes's thesis be accepted as a basis for social policy? Elsewhere the writer has argued¹ that this question should be

¹ See Harold L. Reed, "Economists on Industrial Stagnation," *Journal of Political Economy*, April, 1940, pp. 249-250.

approached not so much from the point of view of its presumed accuracy or of its falsity (for it may be either) but from the point of view of the social risks that would be involved in the utilization of particular points of the program. Certainly, specific remedial measures should be arrayed in the order of the degree of damage that may result from their possible failure to succeed. If this canon of planning had been accepted, first emphasis would have been given to measures that increase in the least degree the difficulties to which future private enterprise will be subjected. Least emphasis would have been placed on measures which threatened to accentuate the gravity of future readjustments.

If our social program since 1932 had been thus conceived, it now would be possible to assert with some degree of certainty the extent to which we should have employed such therapeutic devices as deficit spending. As things are we do not know. Even with continued and tremendous fiscal expenditures and after a year of intensive rearmament the number of unemployed workers is considerable. The time is also approaching when the process of securing funds for Federal spending will have to be altered. Although we own our debt, and though the taxes paid to support the debt are redistributed to our own citizens, it will be difficult on technical grounds alone to raise in taxes the amounts continued deficits will require. There is every likelihood that the tax burden will fall too heavily on those whose initiative is required to provide increasing employment. "Incentive" taxation never makes progress in a democracy against the canon that levies should be based on ability to pay. It may eventually become necessary to substitute a greenback system for the present device of going into debt as Federal expenditures exceed Federal revenues. But the chances are all against our ability to employ any greenback system without succumbing sometime either to uncontrollable inflation or to fascistic types of controls. When, and if, we run the gauntlet of these perils, we shall still be uncertain whether less dangerous policies would have succeeded in restoring employment. Such might not be the outlook if emphasis had first been given to measures calculated to restore entrepreneurial confidence and enthusiasm, as well as to altering price policies so that technological advances would have had an opportunity to widen markets instead of—largely—to displace

labor. Our recent experimentation with unorthodox monetary and fiscal palliatives has taught us little.

All of this may perhaps be attributed to the tendency to forget the limitations of hypothetical economic analysis. There is such a thing as speculating in economic theories as well as in stocks and bonds. Sometimes the social consequences resulting from the blithe acceptance of doctrinal speculations are the more serious.

It is almost inevitable, however, that the existing necessity to rearm will shortly change the nature of our economic problem. By the time these pages are in print our principal perplexity will be that of restricting economic expenditures not required for purposes of defense. The obvious necessity will then be that of avoiding inflation, instead of stimulating deflation.

KEYNESIAN TERMINOLOGY

Keynes's argument, in the *General Theory*, may be summarized as follows:

1. $E = O$ when E refers to the collective earnings of the community (income) and O to the value of the output of goods and services within the period.

2. $E = C + S$ when C refers to expenditures on consumption in the period and S (savings) to income of the period not expended.

3. $O = C + I$ when C refers to the value of the goods that have been consumed and I (investment) to the value of the output not consumed in the period. I may refer to stocks of consumption type of goods as well as to equipment (capital) goods. There is social investment, in other words, when consumption type of goods have been accumulated for future use.

4. Since $E = O$, and $E = C + S$, and $O = C + I$, I must equal S . The savings of society refer then to the unconsumed portion of the output of the period.

To define the terms in such a way that I must necessarily equal S is awkward to those economists who have been trained to think of an excess of I over S as a cause of output expansion and of an excess of S over I as a cause of output contraction. Why does Keynes prefer definitions that assert the equivalence of I and S ? Of principal importance is the desire to demonstrate

that the equivalence of S and I does not mean that the social output of goods is necessarily at a maximum level. There will have to be an equivalence under Keynes's definitions between I and S whether O is at the optimum level, the minimum level, or at some intermediate point.

If, then, I always equals S , what are the determinants of changes in output and income? The innumerable pertinent factors may be summarized under the headings of the "propensity to save" (the antithesis of the "propensity to consume") and the "inducement to invest." A high propensity to save will require a strong inducement to invest if I is to equal S at a high level of employment. If the inducement to invest is weak a strong propensity to save must result in incomplete employment. If adequate investment outlets are not provided it would be better if the propensity to consume were stronger. Individual efforts to save may create conditions in which it is impossible for savings to fructify in increased output.

RIVAL DEFINITIONS

Certain economists who think much like Keynes prefer definitions that enable the analyst to speak of an excess of S over I , or vice versa. This type of terminology may be represented as follows:

1. If $E_1 = E_2 = E_3 = E_4$, when E refers to *monetary* incomes in successive periods, the situation is one of economic equilibrium (no change).

2. If $E_1 < E_2 < E_3 < E_4$, monetary incomes are increasing.

3. If $E_1 > E_2 > E_3 > E_4$, monetary incomes are decreasing.

4. If $S_1 > I_1$ monetary incomes are contracting in period 1.

5. But if $I_1 > S_1$, monetary incomes in period 1 are increasing.

How, then, can I exceed S or be less than S , and what definitions would be appropriate thereto? The period of time is assumed to be short, so short in fact that money incomes received in the current period cannot be spent until the following period.¹ Thus, if the income of the preceding period, E_0 , is assumed to have been \$100, this amount would be available for expenditure

¹ If income received in period 1 is not spent in period 2 it is hoarded in period 2.

in the following period. Of this \$100 we shall assume that \$80 is spent consumptively in period 1. But investment expenditures in period 1 may exceed, or be less than, \$20. Entrepreneurial borrowings from banks, or use of accumulated bank deposits, or the borrowing of deposits from others, in period 1 permit investment expenditures to surpass savings (out of the income of the preceding period). If \$25 should be invested in period 1, E_1 would be \$80 plus \$25, or \$105. Or if, with consumption expenditure staying at \$80, investment expenditure should be \$30, E_1 would be \$110.

It is possible, however, that investment expenditure in any period will be less, instead of more, than savings (out of the income of the preceding period). Thus if $E_0 = \$100$ and C_1 is \$80 and I_1 is only \$15, E_1 would be only \$95. If, in period 2, C is \$80, but I only \$10, as against S of \$15, the income available for expenditure in period 3 will be only \$90.

How can investment in any period be less than the monetary income available after consumption for expenditure in that period? The answer is that monetary incomes received in the preceding period may be hoarded, instead of spent, in the current period, or the currency supply may have been contracted.

The above may be summarized as follows:

	$E_0 = C_1 + S_1$
and	$E_1 = C_1 + I_1$
Therefore, if	$I_1 > S_1, \quad E_1 > E_0$
and, if	$I_1 < S_1, \quad E_1 < E_0$
Similarly,	$E_1 = C_2 + S_2$
and	$E_2 = C_2 + I_2$
Therefore, if	$I_2 > S_2, \quad E_2 > E_1$
but, if	$I_2 < S_2, \quad E_2 < E_1$

Under the above terminology it is possible, therefore, to speak of a discrepancy between I and S . To do this it is necessary to assume short periods, and the terms are stated in monetary, instead of in goods, values.

THE MERITS OF THE RIVAL DEFINITIONS

Which of the two sets of definitions is the more serviceable to the cause of output analysis? What we shall offer will be presented

from the point of view of the layman rather than from that of the economist.

Unless we are provided with a system of analysis that permits account to be taken easily of hoardings, dishoardings, and changes in the currency supply, it is difficult to absorb optimistic impulses with reference to the vitality of the system of free private enterprise. If, as according to Keynes, efforts to save not compensated by acts of investment diminish income and output, it is hard to avoid the impression that a rich society can scarcely ever attain full utilization of its productive resources. Full utilization seems to be only one out of numerous possibilities, in each of which S would equal I . And the one optimum possibility is most difficult to attain in a rich society.

Under the rival income-expenditure approach, however, as that of Robertson, the definitions are pecuniary in nature, and the analysis lends itself easily to numerical illustration. Whether there will be increased or decreased incomes depends on factors which seem to be capable of moving in one direction just as readily as in the other. It is easy to understand under the latter approach how inflationary as well as deflationary conditions may develop if increasing currency and credit permits I to exceed S by a wide margin.

There is this further point. It is awkward to employ Keynes's terms to show how changes in output take place. By his definitions I and S are always equal. If they are equal what have investment and saving to do with output changes? The Keynesian answer of course is that the determinants "propensity to save" and the "inducement to invest" can and do assume varying relationships. But these latter expressions are not referred to in the initial equations. It seems to the writer to be easier to grasp the argument if it is possible to postulate an inequality of S and I in the equations themselves.

APPLICATION OF INVESTMENT-SAVINGS ANALYSIS TO DEFICIT SPENDING

Doctrinal support for a policy of deficit spending by a government in a period of depression has two main variants. It may be contended, in the first place, that such spending will so stimulate business activity and, hence, the amount of the national income that it will be just as easy in the future to meet the tax burden,

enhanced as it has been in monetary value, as it would have been had the stimulation of government spending not been provided. This is the "pump-priming" argument for deficit spending. The second contention is that even though the real tax burden for the future is increased the exigencies of the current situation should be given especial consideration.

Obviously, the pump-priming argument, if correct, supplies the stronger justification for government deficit spending. What light, it may next be asked, does the savings-investment approach throw upon the question of its validity?

Let us adopt a numerical illustration. Assume the community begins with an income of \$100 ($E_0 = \100). In period 1, \$80 is assumed to be spent consumptively and \$20 is saved. Were it not for governmentally directed investment expenditure, total investment in period one might be only \$15. But with the aid of deficit spending by the government investment reaches, perhaps, \$25. The income received in period 1, the total of consumption and investment expenditures, is then \$105. This is the income available for expenditure in period 2. Let us assume that in each of three following periods total expenditure remains at \$105. That part of \$105, in other words, which is not spent consumptively is devoted to investment expenditure. As a consequence of the excess of I over S in period 1 by \$5, the increase in the income for the four periods, as contrasted with what it would have been had I_1 only equaled S_1 , is \$20. Or, if the income of period 1 would have been only \$95 (\$80 plus \$15), income for the four periods would be \$40 higher. Governmental deficit spending of \$10 in period (1) thus has resulted in four times that amount of income expansion.

Such figures illustrate how an initial excess of investment expenditure over savings may result in a succession of higher income levels. Over a long period the accretion of income may thus be a positive multiplier of the initial discrepancy between savings and investment. To apply this to deficit spending, the pump will be primed if in periods subsequent to the initial stimulation I continues at a level that is high in relation to S .

After the period in which deficit spending took place, however, savings might tend to exceed investment, so that the income of succeeding periods tends to fall. Thus ($E_0 = 100$):

Period	Income	Consumption	Saving	Investment
1	110	90	10	20
2	108	90	20	18
3	106	90	18	16
4	104	90	16	14
Total	428			

The expenditure by the government of \$10 in period 1 thus resulted at the end of period 4 in a total expansion in incomes for the entire period of \$28. The multiplier, in other words, would then be only 2.8.

Is a multiplier of this amount sufficient to justify a program of deficit spending? Whether or not it is, it should be obvious that with successive periods the stimulation wears out. Successful pump-priming would then seem to require that it create the conditions which will occasion sufficient new investment operations in succeeding periods. What are these conditions? Into this question we cannot go, save to point out that if the deficit spending program is really intended to prime the pump efforts must be made to encourage private enterprise to initiate new projects. Suspicion that the system of free private enterprise is not desired by the political authority handicaps the effectiveness of government spending. If pump-priming does not work, government deficit spending will have to be continued in successive periods with the final outcome, very likely, the substitution of state for private direction of industry.

Multiplier analysis brings out clearly the difficulties with which pump-priming has to cope. The initial stimulation of incomes may lead to the employment of a portion of them to retire old debts with the results perhaps of reducing the currency supply or of paying over funds to those who hoard. In this way the original excess of I over S tends to fall.

CONCLUDING COMMENT

The enthusiasm with which young economists have taken up doctrines of Keynesian persuasion has been somewhat irritating to veteran economists. It is easy to find, not only the fundamental ideas, but even the very terminology that is employed,

reproduced in the writings of older scholars who made not the least pretension to originality of doctrine. Compare, for instance, the following passage from H. J. Davenport's *Economics of Enterprise*,¹ a work published in 1913 and which summarizes a longer passage in the same author's *Value and Distribution* published in 1908²:

But how, in the existing economic organization, does this saving take place? . . . When the railroads cannot employ their present rolling stock, they will not borrow to construct more. When the dividends are suffering, new lines of road will not be built. The market for savings has disappeared. Business men and corporations are not extending their operations. There are already more goods than can be sold, more houses than can be rented, more public improvements than the taxpayers are willing to pay for. It is, then, evident that if savings will not capitalize into forms of intermediate social wealth, there can be no market outlet for the savings, unless it be in consumption loans, that is, in class indebtedness, dubiously secured, or in government wastes and government wars. . . .

Savings, in any considerable volume, becomes an impossibility because of no market for them. . . .

But although the claims of Keynes's followers to uniqueness of doctrine should be discounted, it is impossible to withhold all their rights to enthusiasm. Certainly, their discussions have enriched the subject in which we are interested. Money and banking had been developing on barren lines. In part the explanation was the failure of most writers to perceive that the study of bank administration had intimate connections with the working of economic principles and was not merely of importance to the bank operator. More than this, monetary economists had come to think so largely under the restrictions of the hypothetical assumptions of $P = CV/T$ that they were not contributing greatly to an understanding of the fundamental determinants of income and outputs. Such understanding became increasingly necessary as the optimism developed in the nineteenth century gave way to pessimism in the decade following 1929.

¹ Page 305. Published by The Macmillan Company, New York, 1913. Reprinted by permission.

² See footnote, pp. 230-231.

REFERENCES

- L. V. CHANDLER, *An Introduction to Monetary Theory*.
A. H. HANSEN, *Full Recovery or Stagnation*, Ch. I.
J. R. HICKS, "Mr. Keynes' Theory of Employment," *Economic Journal*, June, 1936, pp. 238-253.
J. M. KEYNES, *The General Theory of Employment Interest and Money*.
A. C. PIGOU, "Mr. J. M. Keynes' General Theory of Employment Interest and Money," *Economica*, May, 1936, pp. 115-132.
D. H. ROBERTSON, "Saving and Hoarding," *The Economic Journal*, September, 1933, pp. 399-413.

CHAPTER XXXIX

OUR FUTURE MONETARY SYSTEM: THE GRAHAM STORAGE PROPOSAL

IMPRACTICABILITY OF EFFORTS TO REESTABLISH THE OLD GOLD STANDARD

As an ultimate goal of monetary policy, should this country work for the restoration of an international gold standard with the gold values of the important currencies of the world rigidly fixed? To this question the writer can only reply with a reluctant "no." In so replying there is no disposition to disparage the contributions of the gold standard to the economic achievements of the nineteenth century. To the extent that exchange rates between important currencies were stabilized, international commerce and investment were encouraged so that the world gained manifold advantages from an extended geographical division of labor. Geographical specialization stimulated in turn invention, mass production, technological advances, and the upbuilding of cities. The quickened industrial pace of the nineteenth century was due in no small measure to the gold standard.

The successful operation of the gold standard, however, requires obedience to certain rules and technical practices, and, in various directions, increasing difficulty has been encountered in observing these rules. Countries losing gold, for instance, have been finding it more and more disturbing to deflate. Of fundamental significance, here, has been the growing power of labor organizations. On occasions when contraction is required, spreading work, acceptance of the dole, and deficit-financed public employment have been preferred to cuts in wage rates.¹ Then, again, security market practices have perhaps tended more than once they did to induce, instead of to correct, maladjust-

¹ No argument is advanced here regarding the general problem of wage elasticity. We are concerned only with such wage cuts as might be required to bring a particular country's cost and price structure into line with the international level.

ments. Speculation for the fall may be just as profitable in depressions as buying for the rise in booms, so that modern deflations have a way of feeding on themselves and of breaking through successive "resistance points."

The technical organization of banking systems accounts also for frequent failures of gold imports to expand the domestic currency volume in the way naive classical doctrine envisaged. We have seen numerous illustrations of this fact. Shipments of gold to the United States in the decade of the twenties sometimes had the result of reducing member bank indebtedness at the reserve banks instead of enlarging, first, the reserve balances of the reserve banks and, thence, the deposits extended by the banks to the public through loan and investment operations.

The writer admits that the deleterious consequences of such factors as the above might have been much softened if, after 1918, the monetary policies of nations had been wiser. England should never have attempted to restore the \$4.86 pound in 1925. The piecemeal return to gold by other nations in the decade of the twenties was bound to leave some currencies seriously undervalued and others overvalued. For the purpose of making the gold standard work the United States was not warranted in 1933 in devaluing to the extent it did and in the way it did. Neither was American policy at the London Economic Conference of 1933 distinguished for its breadth of vision. But even such errors might have been withstood and corrected had the world not got into its present mess. It would be a long time even after a new peace before the relative values of the important currencies could be reestablished at levels that would approximate the requirements of international equilibrium. The old system has been mangled, perhaps beyond repair.

If the gold standard cannot be made to work effectively as an international system there is very little to say for it on the basis solely of domestic considerations. The writer is not among those who believe that much is to be gained by reintroducing gold coin in our internal circulation. Such a policy might be conducted so as to reduce redundant bank reserves, but there are other means of accomplishing this objective. Although the ability to obtain gold coin for general use might enlist confidence in the dollar it is still to be remembered that we have got along for eight years without gold coin and have had opportunity to

learn that other instruments can be employed to discharge monetary debts. Whether we avoid inflation will depend not on availability of gold coin but on such fundamental factors as soundness of fiscal policies and governmental attitudes in respect to the wages of labor employed in essential industry.

It is not worth while to speculate at the present juncture on the question of what the United States should do with its accumulated stock of gold. Perhaps we shall have it to write off along with Peruvian and Columbian bonds acquired in the decade of the twenties as that which we chose to buy from foreign nations so that they would be able to purchase more of the products of our farms and factories. Whether we shall continue to buy gold at \$35 an ounce will probably be determined in the immediate future by the intensity of our desire to provide financial aid to the British empire.

To these conclusions the writer has come reluctantly. He laments the fact that the rules of the old gold standard will no longer be even half-heartedly observed. Whether we like it or not, our present task is to consider what new type of monetary system can be erected to serve existing requirements most effectively.

THE NEW WORLD MONETARY SYSTEM

The writer is unwilling to speculate about the type of monetary system that will be developed in the event of a victory of the totalitarian powers. Whether, under such an outcome, the United States should throw its influence in favor of any unified world monetary system cannot now be determined. Perhaps monetary warfare between the new Europe and America would prevail. This chapter, however, is predicated on the assumption of an English victory. If Britain triumphs its success will have been gained largely as a result of American economic aid, and it will be the dollar that should become the preferred medium for the settlement of international obligations. To the extent this forecast is correct the critical question will be that of how to relate other currencies to the dollar. As argued, the fixed gold standard will probably not be accepted because gold valuations are too difficult to set up at proper levels and to correct after they become seriously deranged. What will be required will be practices and procedures by agencies like central banks or

managers of stabilization funds which will make revaluations of the dollar values of the other currencies a problem for cooperative, scientific, and international consideration. Such procedure would be only a development of the spirit of the tripartite agreement that exchange rates should be envisaged from the point of view of the upbuilding of world trade as a whole. No nation should henceforth be free to adopt policies that promise to do no more than to give it an unfairly large share in a diminishing volume of total trade.

What we advocate is thus something in the nature of a dollar exchange standard operated so that necessary adjustments in the dollar values of different currencies can be affected with the minimum of disturbance. Still we must not contemplate more of such adjustments than are imperatively required. Confidence in the dollar as a proper anchor for other currencies must be maintained. If the value of the dollar is to fluctuate hither and yon without obedience to well-defined principles it will not command the prestige that will be required. Dollar prestige would certainly be the greater if, somewhere in our price structure, the dollar's purchasing power could be effectively stabilized. The question is whether there is before us any sound proposal for accomplishing this objective.

THE PRINCIPLES OF STABILIZATION

As governing principles to which such a stabilization policy should conform the writer suggests the following:

1. No attempt should be made to stabilize the general price level. To try to keep the All Commodities Index of the Bureau of Labor Statistics at a stipulated level would be undesirable as well as impossible.

2. In stabilization efforts, attention should be confined rather to the basic commodities, largely raw materials, wide swings in whose prices seem to do the most damage to world trade.

3. No effort should be made, within the above grouping, to stabilize the price of any particular commodity. It should only be the average of a selected group whose stabilization would be attempted.

4. The commodities selected to make up the group whose price is to be stabilized should be chosen, so far as can be, on the basis of purely technical considerations.

5. The method of procuring stabilization should be definite and certain. No such indirect processes, for instance, should be relied upon as are contemplated in the commodity dollar proposal.

6. Outside the stabilized group a high degree of discretion as to currency and credit policies should be left to the approved authorities, such as the Board of Governors of the Federal Reserve System.

BENJAMIN GRAHAM'S RESERVOIR PROPOSAL—OUTLINE OF THE PLAN

The wisdom of the foregoing principles will not be argued in this chapter. It will only be asserted that they are supported by much of the material that has been presented. But if these principles be sound, which price stabilization proposal appears to comply with them most fully? Certainly, the much publicized commodity dollar is deficient in several important respects. Objectionable also, on the ground that it would depend on indirect processes, is the Leyfeldt plan¹ which provides for the international acquirement of gold mines and the cooperative control of gold outputs. Similarly objectionable is the general program of requiring the Federal reserve banks to base their credit policies on the disclosures of price indexes. The plan that is most consistent with the above-stated principles seems, at least on first inspection, to be the storage-reservoir plan of Benjamin Graham, outlined in a book published in 1937.² This plan certainly deserves serious consideration.

A. Choice of Commodities under the Graham Plan.—If the prices of a selected group of commodities as a whole are to be stabilized, through offer of a governmental agency to buy and sell a "unit" of such commodities at a specified price, it is obvious that, at particular times, the commodities which comprise the unit will accumulate in storage. In years of large outputs and relatively restricted demand the volume of commodities in storage will increase, whereas, under reverse conditions, these commodities would be released from storage. The commodities that make up the reservoir units, therefore, must be suitable for storage. What commodities, then, possess the qualities most appropriate for storage operations?

¹ See *Federal Reserve Bulletin*, June, 1937, p. 565.

² *Storage and Stability*.

To determine suitability for storage Mr. Graham sets up two fundamental criteria.¹ The commodities included in a unit, first of all, must be dealt in on recognized exchanges. Such commodities are easily graded. They can be bought and sold in a wide market by delivery of warehouse certificates so that consecutive replacements of spot by future contracts is facilitated. This rotation is highly important from the point of view of avoiding deterioration. Second, the interests represented by the exchange should be in a position to provide that the exchanges would bear part of the expense of storage and to make arrangements whereby the commodity would be kept in merchantable condition by rotating holdings. On the basis of this and other technical considerations, Graham suggests 23 commodities, to which others might be added, as suitable for reservoir operations. Thus:

Foods: Corn, wheat, sugar, oats, coffee, barley, rye, cocoa, cottonseed oil.

Textiles: Cotton, wool, silk.

Metals: Copper, lead, tin, zinc.

Miscellaneous: Petroleum, hides, rubber, cottonseed meal, flaxseed, tobacco, tallow.

The fact that the chosen criteria permit the inclusion of a number of food commodities is fortunate, first, because it is necessary that foods be carried over from years of bounty to those of scarce production; second, because price fluctuations of food products have been relatively so disturbing; third, because the severest depressions seem to spread rather more from farms to cities than the other way around. Perhaps it is true that depressions originating in manufacturing and other urban segments of industry can be healed more easily than those characterized by agricultural disaster.

The textiles affect conditions in industries providing large employment of labor. The metals are highly important for defense purposes.

The stabilization of the price of a unit of these commodities would not prohibit fluctuations in the prices of any or all components. The unit as a whole could not fall much below the price at which it might be sold into storage; nor, on the other hand, could it rise appreciably above the price at which it might

¹ *Ibid.*, p. 51.

be obtained from storage. Exactly the same principles would govern the price of a storage unit as from 1837 to 1933 kept the price of gold at \$20.67 an ounce.

Neither would the stabilization of the price of a storage unit prevent manufactured goods, even though fabricated out of storage commodities, from fluctuating in price in response to such factors as improved processes of production and distribution, as well as to alterations in the prices of the particular raw materials out of which they are made. If it be true, as so many economists contend, that reducing prices of manufactured products is a better way of passing on the advantages of improvements than wage increases or enlarged profits, there would be nothing in the Graham plan that would prohibit policies formulated on this conception.

B. The Composition of a Storage Unit.—How much of each commodity would be contained in a storage unit? The answer is that a commodity unit—say \$1000—would contain the various commodities in the same relative quantities as those in which they were produced or consumed in some past period chosen as a base. If, for instance, commodity *x* was produced or consumed to the extent of 10 million tons, and if the value of all products in the base period was 1 billion dollars, the quantity of *x* in a unit would be for each \$1000 unit $1000/1,000,000,000$ of 10,000,000 tons, or 10.

To illustrate by citing Graham's figures, the average annual production of wheat from 1921 to 1930 was 824 million bushels. The weighted average price of a bushel of wheat in this period was \$1.24 per bushel. The product of 824 millions times \$1.24 is 1022 million dollars. By the same procedure, the average yearly value of the output of barley for the chosen period was 141 million dollars. At an average price of \$0.666 per bushel 212 million bushels is 141 million dollars. The value of each other storage component is obtained in the same way. The sum total of the values thus obtained for all components is 9767 million dollars.

Suppose it is found desirable for the storage agency to deal in units of \$1000. The wheat content would then be $1000/9,767,000,000$ of 824,000,000 bushels or 84.4 bushels. Similarly the barley content of a unit would be $1000/9,767,000,000$ of 212,000,000 bushels, or 21.7 bushels.

A \$1000 unit would thus be obtained which would have the following content:¹

Wheat.....	84.4 bushels
Barley.....	21.7 bushels
Cocoa.....	40.4 pounds
Coffee.....	145.5 pounds
Corn.....	268.0 bushels
Cottonseed oil.....	128.8 pounds
Oats.....	125.0 bushels
Rye.....	5.3 bushels
Sugar.....	1297.2 pounds
Cotton.....	674.8 pounds
Silk.....	7.6 pounds
Wool.....	26.9 pounds
Copper.....	152.2 pounds
Lead.....	140.4 pounds
Tin.....	15.8 pounds
Zinc.....	102.7 pounds
Cottonseed meal.....	416.0 pounds
Flaxseed.....	3.8 bushels
Hides.....	97.2 pounds
Petroleum.....	79.1 bushels
Rubber.....	84.1 pounds
Tallow.....	52.2 pounds
Tobacco.....	137.9 pounds

If, then, these amounts of each of the listed commodities should be multiplied by their weighted average prices from 1921 to 1930 and the values thus obtained for each commodity added we would obtain a total of \$1000.

C. The Operation of the Plan.—Let us assume, merely for illustrative purposes, that, at the time the storage plan begins to function, the market price of a storage unit is exactly \$1000. Under this condition it would be unlikely that commodity units would be acquired or released by the storage reservoir. Subsequently, however, particular commodities, say wheat and corn, might drop in price. It would now be profitable for commodity traders to purchase all of the commodities comprising a unit and to sell these units into storage. The effect of such purchases would presumably be to increase prices of all the component items to such a degree that the price of a storage unit would be lifted to \$1000. Purchases for storage might lift the prices of some components more than those of others. But the general

¹See Graham, *Storage and Stability*, p. 57.

effect of the fall in the price of wheat and corn would be to produce an increase in the prices of the remaining commodities. Since, however, there would be 21 other commodities whose rise in price would be required to offset the fall in the price of corn and wheat, it would not be expected that the percentage increase in the price of the average of the 21 commodities would be nearly as great as had been the percentage fall in the price of the two commodities.

If, on the other hand, a few commodities, say sugar and cotton, should rise in price and other commodity prices should remain unchanged it would be profitable for commodity units to be purchased from the reservoir system and sold in the market. Such action would tend to depress the prices of the component items, but to a lesser extent for each individual commodity than the rise in the price of sugar and cotton.

D. The Proper Time to Inaugurate the Plan.—In *Storage and Stability*, Mr. Graham selects for purposes of illustration the period 1921 to 1930 as the base for the determination of the composition of a storage unit of a value of \$1000. Is this period a good base?

Perhaps this would be the best base period that could be selected. Still, Graham is not arbitrary about the matter, and he agrees that with changing economic conditions a different base might be preferable. Just now, with world markets seriously deranged as a consequence of the European and Asiatic hostilities, it would be unusually difficult to fix a price for a commodity unit that would not have the consequence either of building up the reservoir of commodities "excessively" or of being completely ineffective in supporting the price of primary products. For this reason a good many economists would insist that operation of the plan should be postponed until conditions become more settled.

There is much to say, however, on the other side of the question. Immediately after the cessation of hostilities prices of primary products may begin a catastrophic decline. Such a time, therefore, would be one in which it would be unusually beneficial to supply protection against the consequences of a deflationary movement. There would also then be a better chance that the reservoir might begin to accumulate commodities that could be unloaded with profit later on.

E. The Prices at Which Commodity Units Would Be Bought and Sold.—Thus far it has been assumed that the purchase price of a unit would be the same as the sales price. If it were desired, however, the government could provide for a slight differential between its sales and its purchase price. The unit that would be taken into storage at \$1000 might be released from storage at a slightly higher price—say \$1005. This differential of \$5 would be regarded as the equivalent of the coinage seigniorage that is exacted whenever the mint authorities retain part of the metal private owners of bullion bring in.

F. Means of Obtaining Currency with Which to Pay for Storage Units.—How would the storage agency obtain the funds necessary to purchase commodities for storage? The widest latitude could be permitted the monetary authorities. If the new system should be operated as much like the old gold standard as possible, fresh currency would be issued as commodity units were acquired. When commodity units were released from storage, this currency would be withdrawn from circulation. It would not be necessary, however, that the gold standard model be followed. The currency required for the purchase of commodity units could be withdrawn from the general currency volume by the method of taxation. It would even be possible to rely upon borrowing. On the other hand, it might be made discretionary with the authorities to determine what would be done with the currency obtained from the sale of commodity units.

It would be in accord with the personal opinion of the writer, however, that the discretionary plan should be adopted. In effect, our credit authorities would then be provided with a new control weapon. When inflationary tendencies were developing outside the stabilized area, currency required to purchase commodity units could be obtained by taxation or borrowing out of savings. On other occasions the required currency could be obtained by new currency issues.

Since, however, commodity units would be withdrawable at a fixed price, all the circulating currency of the country, however issued, would have the backing of the reservoir commodities.

DANGERS AND OBJECTIONS TO THE PLAN

A. Danger of Accumulating an Excessive Volume of Storage Commodities.—Would it be possible, if the storage plan were

adopted, to avoid fixing so high a purchase price for the commodity units that an excessive supply of primary products would be accumulated in storage? This raises the question of what we should mean by an "excessive" supply. One test would be whether stored goods had reached the point at which deterioration is so great as to indicate social waste in devoting further labor to their production. Social wastes would have to be inclusively defined. It would not matter so much from the point of view of society at large whether the full storage cost should be borne by the reservoir agency itself. Even though private interests should bear a part of the cost there would still be the question whether it is desirable to pay a price to producers of primary products which would be unjustified from the standpoint of the need of preserving them for future use.

There are certain protections in the plan against excessive accumulations. In the first place, the components of reservoir units would be selected under the principle of suitability for storage. Second, the purchases by the reservoir system would release currency which would tend to strengthen the monetary demand for all commodities, including the component items. Third, the price of no single component is to be stabilized, so price penalties would still operate against the production of the goods whose price is relatively the most attractive. Fourth, it is probable that the adoption of the plan would result in the installation of greatly improved warehouse facilities. Technical advances, like electrical refrigeration, would operate here as well as in other areas of our economy.

Of fundamental importance, here, would be the choice of the price to be offered for storage units. Although the price of no single component is to be stabilized, the producers of the various items would be expected to develop a community of interest out of which might develop pressure for a favorable price too strong to be resisted. The writer is obliged to confess, but with reluctance, that this pressure would probably be much stronger than, in gold standard systems, operated to secure a high mint price for gold. Gold producers represented relatively restricted interests, and they were seldom in a position to argue that the real wants of society could be better satisfied if more gold were stored. Most of our gold, furthermore, was obtained from abroad instead of from domestic producers.

The best protection against the fixation of too favorable a price for storage units would be the realization by producers of the danger that excessive accumulations of goods in storage would threaten the abandonment of the system. Whether this understanding of producers would be sufficiently strong can only be a matter of speculation.

It must be kept in mind further that costs of production in the future may take a far different trend in the case of primary products suitable for storage than in the case of goods not admitted to the reservoir system. The writer has been informed, how authoritatively he cannot say, that under the most advanced methods of production wheat, for instance, could be grown in adequate quantities at only a few cents a bushel. It may be true, for all the writer knows, that cost-cheapening processes will find greater application in primary than in derivative products. To the extent this should prove correct any price fixed on the basis of earlier experience would be too high. It might easily result in excessive accumulations.

But would not the constant release of fresh currency as storage should proceed stimulate monetary demands for all goods sufficiently to offset such declining price tendencies? This aspect of the problem seems to necessitate brief examination in a separate section.

B. Effect of the Storage Plan upon the General Credit Situation.—Under such conditions as have just been postulated, rapid technological improvements in the production of primary products, the advocates of the storage plan would envisage the creation and release of new currency in payment for stored products. These emissions would have the effect of driving up prices outside the reservoir list to a level at which balanced conditions would again prevail. This might indeed be the general way in which the plan would operate. But we cannot be certain that storage-emitted currency would operate on other prices in the precise way that would be required. Perhaps this currency would stimulate the demand for securities and real estate instead of for nonstorage commodities. Just as in the decade of the twenties cheap credit permitted securities to move to levels at which a reaction was inevitable, and to an extent that deranged the entire credit structure, similar results might occur under the storage plan. Faced with such a danger the monetary author-

ities of the country might be forced to undertake restrictive credit measures and thus nullify the expansive influence of storage currency issues. There are situations in which rapid technological improvements in the production of primary products could result in excessive accumulations in the reservoir system.

C. Feasibility of Providing for Future Changes in the Price of Commodity Units.—In view of the difficulty summarized just above, would it be necessary to make provision for a future reduction in the reservoir price of commodity units? So it would seem, unless the price at first established should be too low to attract commodities into storage and unless technological advances should proceed no further than in the case of goods not included in the commodity unit. Would it be possible to provide for periodic adjustments of the storage price of commodity units?

Under present disturbed conditions it would be unprofitable to try to think this question through with the thoroughness that the adoption of the plan would necessitate. It is too hard just now to predict future conditions of importance for our problem. It is easy, however, to point out many difficulties in such a procedure. Prospects of an arbitrary decision of the storage authorities to reduce the price of a commodity unit would certainly have to be taken into account by those called upon to invest capital in the production of primary products, and evidence of a tendency toward excessive accumulations would create serious apprehensions on the part of such interests. Producers of the stored products would certainly utilize every avenue of influence and of political pressure to compel the abandonment of any proposal to reduce the price to be paid for commodity units. It is hard for the writer to see how any ideal solution of this problem could be worked out. The plan would seem to transfer to a larger field the same type of difficulties that have been experienced in the narrower field of gold production. In the past, expectations of a change in the price of gold have always created profound disturbances.

CONCLUSIONS

There is much in the theory of the storage plan that arouses profound enthusiasm and respect for its leading advocate. Still, and as argued, the plan would have to surmount serious obstacles.

It would seem to the writer that, with the cessation of hostilities between the nations of the world, the plan, if adopted, should be employed at first with the utmost conservatism and precautionary protections. If the price of a commodity unit were then fixed at a low level it might be effective in putting a floor beneath what would otherwise be a serious collapse in the price level of primary products. But the price for storage units that would secure the approval of the interested producers would very likely be far above such a figure. It would be best in the beginning, therefore, to initiate the plan without pretense that it is expected to solve any large part of the farm problem.

If this be good sense, what of the problem presented at the beginning of the chapter of prospects of developing an effective dollar exchange standard as the basis of a new world monetary system? With the storage plan reduced to moderate aspirations, and with other price stabilization plans clearly defective, what are the chances the dollar will be accepted as the preferred medium for the discharge of international debts? The short answer to this question can only be that to produce the necessary degree of dollar confidence we shall be obliged to continue to rely largely on the wise functioning of such agencies as now have influence. We can do no more here than to point out to the members of these agencies not only their grave responsibilities but also their remarkable opportunities to restrict the area of world trade within which currency derangements present serious obstacles.

CHAPTER XL

PRINCIPLES OF BANKING REFORM

REQUIREMENTS OF A GOOD BANKING SYSTEM

Our banking system provides the greater part of our media of payment. The structure of the system by means of which these media are emitted is therefore significant not only to the student of bank management but also to the monetary economist. There have been many instances in which efforts of the monetary authorities to expand or contract the currency have been thwarted by contrary policies of banks. It is generally agreed, for instance, that one of the reasons why the monetary measures of 1933 did not produce the anticipated degree of commodity price inflation was that our banks generally observed prudent principles of credit extension. Similarly, the recent tremendous increase in excess bank reserves demonstrates that expansive policies can be activated only through the day-to-day transactions in which banks engage. There is no clear-cut distinction between monetary and banking policies.

In the instances cited above it may have been fortunate that the practices of the banking system could not be easily controlled. Be this as it may, however, we must regard friction between the banking system and the monetary management as an element of weakness. All parts of our financial machinery ought to mesh together. We shall not be satisfied in the future if we encounter difficulty in getting the banking system to do what we desire. Responsiveness of the credit volume to the dictates of monetary policies must be set down, therefore, as one of the prerequisites of a well-ordered banking system.

We must keep in mind, also, certain less grandiose standards of good banking performance. We want our banking machinery to be operated so that credit will be equitably extended among different classes of borrowers. We require that as depository institutions the solvency of banks be assured without threatening any large drain on the public purse. The banking system should provide its services with a minimum of expense.

IRRATIONAL CHARACTER OF OUR BANKING SYSTEM'S DEVELOPMENT

Have our lawmakers thought through the problem carefully for the purpose of permitting such objectives as have been outlined above to be most effectively achieved? The answer to this question, of course, must be in the negative. Our banking system has simply grown, and corrective measures have been almost entirely of a palliative and supplementary character. Surgery has been neglected. As particular faults of the banking system have become obvious legislative bodies have sought correction by installing new pieces of machinery. After the failure of the second United States Bank, for instance, the country suffered greatly from dependence on diversely regulated state institutions. Corrective efforts took the form of providing for the Federal incorporation of banks. But state banks continued to exist, and little thought was given to means of coordinating the activities of the two types of banks. In the course of time we were prepared to admit that we needed a central banking system. So we installed the regional reserve banks in 1914. But, although the Federal Reserve System provided many benefits, it could accomplish little by way of integrating the activities of the different types of banks that had been developing. In 1933, after basic structural faults had been adequately demonstrated, we created the Federal Deposit Insurance Corporation, and this agency now plays considerable part in the supervision of nonmember banks. So also does the Reconstruction Finance Corporation, whose control powers were provided as an incident to the program of strengthening the capital structures of weakened banks. Supervision and examination powers over our motley array of banks are thus now divided between the Comptroller of the Currency, state banking departments, the Federal reserve banks, the F.D.I.C., and to a somewhat lesser extent the R.F.C.

It is perhaps not in the fields of supervision and public regulation, however, that the greatest confusion and inconsistencies lie. Banks' powers now depend quite as much on the laws under which they operate as on the type of service they render. National banks may not make mortgage loans to an amount exceeding 60 per cent of the appraised value of the property to which a lien is given, but competing state banks, if members of

the Federal Reserve System, may make mortgage loans in New York, for instance, to an amount equal to $66\frac{2}{3}$ per cent of the value of the mortgaged property. In the mortgage loan business member banks may be competing with savings banks and savings and loan associations which may be permitted to extend loans to an amount as high as 80 per cent of the appraised value of the property to which lien is given. Industrial banks may be incorporated under the small loan statute. Savings banks, because of their special clientele, consisting largely of small savers without adequate checking accommodations, make demands from time to time that they be granted powers similar to those of demand deposit banks.

The above is not intended as an argument that dissimilar powers should not be granted to different types of banks. It is contended, however, that the time has long since passed when powers should be conveyed on a piecemeal basis. A comprehensive program should be initiated according to which the operations of the various lending and depository agencies will be intelligently correlated. The purpose of this chapter is to make a few basic suggestions for such a program.

BASIC PROBLEMS RELATING TO THE CONTROL OF DEPOSIT-ORIGINATING BANKS

In previous analysis a distinction was set up between fully equipped depositories and other banking institutions which, because of the lack of adequate deposit facilities, are always operating defensively in the clearance system. The latter type of institution plays little part in determining the outstanding volume of deposit credit. It is to be regarded primarily as an agency for the distribution of credit that emerges in the lending and investing operations of the deposit banks. We shall deal first of all with the deposit-originating banks.

Fundamental questions relating to institutions of this type are the following:

1. From what authority shall they obtain their charters?
2. What agencies shall supervise their operations?
3. What status, if any, shall they have in the Federal Reserve System?
4. What shall be their structural form? Shall they be independent unit banks? Shall they operate as branches of a

parent institution? Or, shall they be members of a bank holding corporation?

5. What shall be their relationship to the F.D.I.C.?

CHARTER PROBLEMS

The chartering power is important because the authority that possesses this power has control over the number of institutions which may come into existence and which will be permitted to exercise only such powers as are explicitly conveyed or are necessary and convenient therefor. In the writer's opinion our experience has demonstrated conclusively that the power to charter should be lodged in a single authority. Under the dual system of state and Federal chartering there has always been the danger that policies will be determined somewhat from the point of view of increasing the influence of one of the chartering authorities at the expense of the other. Such competition in the issuance of charters, unless deliberately restrained, tends to lower standards. In recent years, particularly, vigorous efforts have been made to mitigate this difficulty. State banking departments may refuse to grant charters except with the concurrent approval of the national authorities, and, on the other hand, the Comptroller's office may undertake to consult with state authorities in matters relating to the granting of national charters. But there is always danger of misunderstanding in such contacts. Dual chartering, furthermore, is likely to result in the conveyance of powers possessing more dissimilarity than is desirable. As a starting point in the solution of this problem, therefore, we shall express a decided preference for the concentration of authority to issue charters in a single agency.

Shall this agency be the Federal government or the various states? A strong case can be made for national chartering on the ground that bank deposits constitute the principal exchange media of the country. This deposit currency is employed in the discharge of debts arising in interstate, as well as in intrastate, commerce. The power to provide bank deposit currency is not essentially different today from the power originally conveyed to Congress to "coin money" and "regulate the value thereof" (section 8, article I, of the Constitution).

Be this as it may, however, the needs of different communities, and the preferences of their citizens as well, vary, and there is

strong ground for resisting any unnecessary extension of Federal control. Chartering relates to matters of convenience and accessibility as well as to provision of the exchange media. It is only fair to inquire if the necessities of Federal control cannot be obtained reasonably well in some other way. Would not the requirement that all deposit-originating banks be members of the Federal Reserve System be sufficient to assure responsiveness of bank practices to national policies in matters where the Federal government's interest is paramount?

If membership in the Federal Reserve System should be made compulsory Congress could modify the eligibility sections of the Federal Reserve Act in such manner that there would be that degree of uniformity of powers and operating methods which may be required to subserve the national interest. To the extent that such uniformity is not required the several states, if they were the sole chartering authorities, would be able to impose requirements in accord with state necessities. Under this arrangement the reserve banks would have in essence a veto power over state chartering. Since, moreover, there would be no national banks, there would not be any possibility that the reserve banks would exercise their powers for the purpose of expanding the influence of a rival banking system.

What should be the hookup between the Federal reserve and the F.D.I.C.? In the opinion of the writer depository banks should belong to the reserve system regardless of their insurance status. But it is also believed that all banks that are members of the reserve system should belong to whatever national insurance system exists. Just as member banks provide the country's payment media, reserve bank deposits are the base on which member bank deposits are erected. The agency that has discretion to alter the volume of member bank reserves should have as its membership every fully equipped and insured bank of deposit.

To argue for the abandonment of the national banking system may appear to be a thoroughly radical proposal. To those of this opinion it may be pointed out that the national banking system is somewhat of a historical accident. After the failure of Congress to renew the second United States Bank the need for some measure of centralized control over our currency was clearly indicated. But in our unwillingness to create a third

central bank we provided in 1863 for the Federal incorporation of individual banks. The national banking system was essentially a compromise, and compromises are usually wrong. The National Bank Acts did contribute to some degree of uniformity of powers and supervision. But if the Federal reserve banks had been created instead in 1863 we would never have heard of the national banking system.

SUPERVISION AND REGULATION

If the Federal government is to surrender the right to charter banks of deposit, should it also lose authority to examine and supervise? It would not be required that with the abandonment of the national banking system the office of Comptroller of the Currency be abolished. Such a consequence, in the writer's opinion, would be highly undesirable. The Comptroller's office has had an outstanding record as an examination agency, and with the development of its work has grown up a body of precedent-creating court decisions. Its influence has extended not only to the institutions subject to its supervision but to those state banks whose supervisory officials have had the professional zeal to match the national standards. To abolish the Comptroller's office would be to undo the most enduring accomplishment of the national banking legislation.

Our suggestion, however, is that examination power over banks of deposit become a responsibility of the Federal reserve banks and that some legal means be found of attaching the office of Comptroller of the Currency to the Federal Reserve System. The writer's preference here would not be to make the Comptroller of the Currency a member of the Board of Governors. The Comptroller, rather, would be chief of the division of examinations of the Board. His function would be to supervise the examinations conducted under the immediate authority of the district chiefs.

Would the system here recommended, state chartering of deposit banks, all members of which belong to the Federal Reserve System and are subject to Federal reserve examination and supervision, eliminate state banking departments from examination responsibilities? It is not believed that such a result would be defensible. We do require a certain measure of uniformity in bank examination and supervision. But we do

not want this uniformity to become bureaucratic formalism. We want examination to take adequate account of local conditions. It is suggested, therefore, that some provision be made for the representation of state officials in each examination and for consultation with the state superintendent of banking in the preparation of the final returns. Lest it be argued that mere representation in examination would be insufficient to justify the existence of state banking departments let it be kept in mind that it would still be the exclusive function of state departments to charter all banks and to examine those nondeposit institutions to which we have not yet paid attention. Under the plan proposed, the state departments would also be consulted in the examination of banks now operating under national charters.

What should be the supervisory and examination authority of the F.D.I.C.? In the opinion of the writer this agency should become a pure insurance organization and should depend upon the Comptroller of the Currency for bank-condition information. If the F.D.I.C. has hopes of becoming the Federal overlord of nonmember banks, it should abandon this ambition. One Federal agency is enough in the field of banking supervision, and this agency should be the Federal Reserve System. Furthermore, there should be no insured banks that are not members of that system.

The plan we have advocated would lessen the influence of the Secretary of the Treasury over the banking system. The Comptroller would henceforth be an agency of the Federal Reserve System. Presumably the Comptroller as well as deputy comptrollers would be appointed by the Board of Governors. In the opinion of the writer this lessening of Treasury influence would be desirable. As an important party leader and as a member of the President's cabinet the Treasury Secretary sometimes finds it easy to secure the official acceptance of views that might not stand the test of debate. The Treasury's main responsibility is in the field of fiscal, rather than of banking, problems.

THE STRUCTURAL FORM OF DEPOSITORY INSTITUTIONS

Should fully equipped depository banks operate as independent corporate entities or should they be branches of parent insti-

tutions? In approaching this highly controversial question it is necessary to distinguish between the needs of bank depositors and those of borrowers. From the point of view of the depositor there is much to be said for such utilization of the branch plan as will render facilities reasonably convenient and accessible. Since 1929 the number of banks in the country has been reduced some 40 per cent, and there are probably many communities in which access to depository institutions is unnecessarily difficult. The branch system could be employed to increase the accessibility of deposit facilities with a minimum of expense.

From the point of view of the needs of depositors, however, it would not be required that branch systems operate over wide areas. County-wide, contiguous county, or state intradistrict branch banking would be sufficient. The precise area over which a branch system might operate should probably be left to state determination, with the qualification that reserve bank authorities should be consulted in cases in which uneconomic methods of competition are threatened.

When the branch form of organization is advocated, however, from the point of view of the borrower's needs, the argument becomes more controversial. Advocates of large-area branch banking maintain that the investment and lending functions require more elaborate analytical departments than the average unit bank can provide, and that in the case of local loans the independent institution is handicapped by inability to employ the best ability. Branch bank advocates also contend that the policy of advancing branch managers from post to post provides a type of training in banking for which there is no real substitute.

Opponents of the branch system are equally positive in their contentions. They maintain that, to be a good judge of loan applications, the bank executive should be a product of the community and that the practice of shifting managers from small to large posts runs contrary to this principle. In the matter of security investments unit bankers contend that rating and information services are available to all and that these agencies can be relied upon as confidently as the special bond departments of the larger banks. Opponents of unrestricted branch banking also hold experience has demonstrated that large-area systems tend to exercise such degree of influence over supervisory authorities that regulation loses impartiality. Opponents further con-

tend that we ought not to permit development in the banking field of the same complicated corporate structures that resulted in so many acknowledged abuses in the electric power and light industry.

The merits of this controversy cannot here be resolved. The writer can only take a position. This position is that branch banking finds its justification not in the needs of borrowers but solely in the requirements of depositors, and that in the matter of convenience of depository facilities the individual states should be free to make their own decisions. Reserve bank control of intrastate branch banking should be supplementary to that exercised by the state authorities.

GROUP BANKING

Even in the absence of branch banking powers, however, banking control may be highly concentrated. The device employed for this purpose might be concentration in the ownership of the share capital of different banking institutions. In the less exaggerated instances the same individuals may acquire stock in a number of different banks. Or, as for instance in the case of the Marine Midland system, a corporation may be created for the purpose of holding stock of otherwise independent institutions. Since each institution whose stock is thus acquired must maintain its own board of directors, it may be somewhat more difficult to maintain management control than under the branch device. This is among the reasons why liberal branch legislation is encouraged by group banking interests. By means of a combination of stock ownership and even intrastate branch banking, the area over which control is exercised may be very great.

There is controversy whether common ownership of stock banking should be regulated more or less strictly than branch banking. In the opinion of perhaps a majority of the authorities group banking has all the disadvantages of branch banking and none of its advantages. An opposite view holds, however, that the existence of separate directorial bodies in a group system makes a lot of difference and that this fact provides a limit to the completeness of control that can be exercised by the holding device.

Into this controversy we shall not go. Individuals of different economic philosophies can scarcely be expected to think alike on any aspect of the branch bank question. Our position is that public policy *in re* group banking should be consistent with branch banking statutes. Federal statutes, we believe, should not permit holding companies to be employed as an instrument of centralizing control of banks situated in different states. Thereby the people of a particular state might have imposed upon them a form of banking they themselves would be helpless to control. Interstate holding company banking should be prohibited by appropriate federal legislation. Within the states, on the other hand, holding company statutes should be consistent with those relating to branch banking. The present situation in New York State should thus be corrected. At the present time, branch banking is restricted in New York to the confines of specified areas. But, through stock ownership, even by a holding company incorporated in another state, the effects of state-wide branch banking may be secured.

THE NEED FOR SUPPLEMENTARY INSTITUTIONS

We are here concerned with the supplementary banking institutions not fully equipped as depositories and not responsible for the creation of any large part of our circulating media. These institutions may provide limited deposit facilities. Savings and loan associations offer savings and income shares, and these shares take the place of a saver's passbook. Nevertheless, these institutions are so inadequately provided with deposit facilities that they operate defensively in the clearance system and must be regarded as distributors rather than as originators of credit. In a sense they are cooperative associations of bank depositors. They assemble sufficiently large pools of credit to permit them to function effectively as lenders.

Should the development of agencies of this type be encouraged? Or should public policy be directed toward concentrating lending in the deposit-originating banks?

The first, and theoretical, justification for the existence of these institutions has not received sufficient attention. There is a strong *a priori* argument for the encouragement of institutions which in effect bring otherwise idle credit into effective use. It is generally better to mobilize what we have than to

create something new. The danger of creating new supplies of credit to meet every demand arises from the fact that credit hitherto idle may later get actively employed and give rise to uncontrollable developments. We have seen above that one of the important reasons for the inability of the reserve banks to restrain the stock market's use of credit in the decade of the twenties was the huge mass of bank credit in existence over which the reserve banks had little control and which high call loan rates brought into active employment. What is said above could be put under the heading of fitting the credit volume as closely as possible to the demands therefor.

The usual justification for the existence of these supplementary institutions, however, is the mere fact that they serve worthy objectives that otherwise might be neglected. We can not be certain by any means that, in New York State, for instance, small savers would have been cared for as well if there had not been created its fine system of mutual savings banks. In developing the practice of lending to homeowners and of insisting on the regular amortization of the debt, savings and loan associations have made enduring contributions to the cause of regular savings habits and to interest in home ownership. Credit unions¹ have a place in the scheme of things in that they provide for the neighborly consideration of the emergency needs of members. Were it not for industrial banks and personal loan companies needy borrowers might still be dependent on the unregulated usurious lender.

A third justification for the auxiliary institution is the fact that it may be set up in such a way as to render credit advances by the depository institution safer. The capital of a personal loan company to which a bank advances credit is a buffer against loss and permits a larger volume of credit to be made available to the ultimate borrower.

THE PROBLEM OF CHARTERING AND SUPERVISING AUXILIARY INSTITUTIONS

The problem of controlling the subsidiary credit institutions does not involve as serious controversies as in the case of deposit-

¹ In the writer's opinion there should be no Federal credit unions. Neither should there be Federal savings and loan associations.

originating banks. So far as chartering is concerned, there is little justification for dependence on a Federal authority. These institutions are not largely responsible for the creation of our media of payment, so the principal question has to do with the special need for their facilities that may prevail in each particular state.

Since there is little justification for their Federal chartering, the argument for their Federal regulation is also weak. They should be under the complete supervision of state banking departments. Neither should they be members of the F.D.I.C. If their deposits are to be insured they should cooperate to create their own insurance agency, as mutual savings banks in New York have done in the Savings Bank Trust Company. Finally, they do not logically belong to the Federal Reserve System.

It is true that some of these axioms have been violated in recent practice. Mutual savings banks may be insured by the F.D.I.C. Savings and loan associations may also insure their shares in a Federal agency, the Federal Savings and Loan Insurance Corporation. Morris Plan banks may apply for membership in the Federal Reserve System. But, in the writer's opinion, these facts prove principally the confusion of our lawmakers in regard to the proper integration of our banking system.

ALLOCATION OF POWERS AMONG THE DIFFERENT TYPES OF INSTITUTIONS

In previous pages it has often been pointed out that ability of banks to assume "character" risks requires a reasonably strong earnings position. Without adequate earnings surplus accounts cannot be built up to the point required to absorb (not probable, but) possible losses on such unsecured loans. When earnings are poor, credit extension must follow routine principles and so render it difficult to find justification for the independent unit system.

Since we have advocated liberality in the creation of subsidiary banking institutions we are under obligation to speculate whether the proposals we have offered would leave banks of deposit with a sufficient amount of profitable business. Short-term and working-capital business loans should continue to go largely to the banks of deposit, so largely in fact that state legislatures would not be expected to provide for the creation of new sub-

subsidiary institutions for this kind of work. The contacts a bank makes with its depositors, the prestige it has derived from early entrance into this business, and the elasticity of operations that results from membership in the Federal Reserve System provide some assurance against severer competition in this field from auxiliary institutions. Then, again, the increasing strictness in the granting of charters to new deposit institutions and the gradual merger of existing unprofitable banks with those more fortunately situated and ably managed offer additional assurance against the spreading of business loans among too many institutions.

Neither is it to be expected that nondeposit banks will make any extensive incursions into the work of bank trust departments. Deposit banks' investment operations on their own account are relatively so large that they are more likely to possess the facilities required for trust fund investment than other types of institutions. There is little to fear from nondepository institutions in this field. It might be well, nevertheless, if requirements for membership in the Federal Reserve System were such as to prohibit the inclusion of institutions organized under trust company statutes. It is remarkable that in so many states it has been possible to operate under more lenient powers if the trust company section of the law were chosen under which to apply for a charter.

But the trend of business loans has been generally downward in recent years, and cost surveys indicate the unprofitability of trust departments in an astonishingly large number of banks. In conjunction with these factors low yields on high-grade bonds have forced depository banks to turn to new sources of revenue. These sources are principally increased service charges, real estate mortgage loans, and loans to consumers.

How extensive should be the powers of depository banks to extend real estate mortgage loans? Factors bearing on this question have been indicated above. In general, however, few will deny that deposit banks should be confined to the safest portion of the mortgage loan business. Real estate is notoriously illiquid in time of depression. It is proper that mortgage loans of depository banks be not as high a percentage of the value of the underlying property as is permitted some of the subsidiary institutions. Bank demand deposits require assets in the mar-

keting of which the likelihood of value shrinkage is minimized. On the same grounds justification can be found for other restrictions on deposit banks' mortgage loans, such as limitations of their total volume to a prescribed ratio to the bank's capital funds and time deposits.

Similarly, deposit banks' personal loans should be of a type that involves less risk than those of specialized personal loan companies. Perhaps the best means of confining depository banks' personal loans to the relatively safe category would be to prescribe—perhaps in the sections of the reserve act relating to membership eligibility—that the actual rate of interest realized on such loans should not exceed 1 per cent a month.

According to the views here expressed the competition between deposit and nondeposit institutions would be confined to the safest portion of the loans to be permitted the latter type of institution. But the development of increased competition solely in this area should operate to restrain the excessive creation of auxiliary banking institutions.

It should be borne in mind that the views advocated here would eliminate the absurdities that now prevail such as the grant of more liberal mortgage loan powers to state member than to national banks. In our opinion there should be no national banks.

The above has regard to the allocation of powers between deposit and auxiliary institutions. As regards the assignment of powers to the different types of auxiliary institutions the following suggestions are offered:

1. Work toward the eventual consolidation of savings banks and savings and loan associations.
2. Work toward the eventual consolidation of industrial banks and personal loan companies.
3. Provide for the creation of investment companies especially designed to fill in the gaps in the capital-finance structure occasioned by the confinement of deposit banks' investments to the highest quality issues.

In regard to the first proposal, let it be frankly acknowledged that both savings banks and savings and loan associations have made valuable contributions. The savings and loan association has encouraged systematic saving by offering shares payable in installments, and has widened home ownership by providing a

regularly amortized mortgage. But the periodic reduction of mortgage loans is becoming the general policy of savings banks, and there is no reason why savings banks could not be authorized to offer savers shares payable in installments and offering a higher return than their savings deposits. Passbook accounts have the advantage of earlier withdrawability and are not entitled, therefore, to the higher rates.

In the proposal to provide for the eventual consolidation of these two types of lending agencies no immediate and revolutionary action is contemplated. Present action should perhaps be confined to the passage of legislation according to which voluntary mergers would be facilitated, and in outlining the terms consistent with these provisions whereby any new institutions would be organized.

Both industrial banks and personal loan companies have done much to improve the extension of loans to consumers and needy borrowers. But their special functions are essentially similar and it would simplify analysis and regulation to require their organization under uniform statutes. It is to be kept clearly in mind that the proper control of consumer credit is essential if we are to make progress toward economic stabilization. Consumer credit must be regulated so as to avoid the overmortgaging of future incomes in good years and, on the other hand, to help maintain consumer purchasing in times of depression. Consumer credit regulation must also take adequate account of the terms under which finance and installment sale companies finance customer purchases on credit.

The author is reluctant to suggest the creation of new agencies. We are suffering from the excessive overlapping of operations of existing agencies. It is not impossible, nevertheless, to recommend that a new type of investment company should be authorized to operate in the capital credit field. This agency would be equipped with powers to deal in capital issues of medium quality. It would be set up solely for the purpose of filling the gap occasioned by the confinement of bank investments to high-quality issues. In the past investment companies have been organized for all sorts of other purposes, and their capital structures have been too often adapted to the end of employing the dangerous leverage principle to enlarge earnings applicable to share capital. State recognition of the important place that could be occupied

by investment trust companies of the type required for the above-stated purpose would seem to be a proper policy objective.

FEDERAL RESERVE INFLUENCE

The suggestions that have been made should go far to enhance the influence of the reserve system and, as a consequence thereof, to improve the attractiveness of membership on the Board of Governors. Through the change in the status of the office of the Comptroller that is recommended the influence of the Treasury over the banking system would be lessened and there would be no possibility of an extension of the authority of the F.D.I.C. in the field of bank supervision. This latter body would become a pure insurance organization and it would insure only Federal reserve member banks. As a further means of improving the authority of the reserve administration there could be compliance with the recommendations of the system's representatives of Dec. 31, 1940, that all activities of the Treasury and the stabilization fund which affect member bank reserves should be discussed with the Federal reserve open market committee. The latter committee should also be assigned power to alter, within the confines of statutory authority, reserve requirements against member bank deposits. The open market committee includes representatives of the district banks as well as all members of the Board of Governors. The development of its influence seems to be the most promising way of mitigating those difficulties of administration which have existed in our regional central banking system since the compromise of 1913.

APPENDIX

CHAPTER I

I. A FEW REFERENCES ON THE DEFINITION AND FUNCTIONS OF "MONEY"

The classical economists' opinion that the "inconveniences connected with barter led, at an early period in the history of civilization, to the introduction of a medium of exchange or money" is reflected by way of example in H. R. Seager, *Principles of Economics*, Chap. XIX, pp. 322-323. To Seager, "money" had three functions, medium of exchange, standard of value, standard of deferred payments. To Alfred Marshall (*Money, Credit and Commerce*, pp. 15-16) "money" is first of all a medium of exchange for current transactions, and, secondly, a standard of deferred payments. In the mind of R. G. Hawtrey (*Currency and Credit*, Chap. I), "money" "provides a medium of exchange and a measure of value."

Hawtrey does not debate the question whether both functions could be embodied in the same thing. But he does maintain that a unit of account is the primary necessity because, if we have such a unit, it will be easy enough to utilize bank credit as a means of discharging debts. After bank credit is brought into existence, what is required is a means of limiting the volume of bank credit in a desirable manner. The method that has been evolved to do this is to make bank deposits an obligation of a bank to pay conventionally or legally recognized bearer currency. It will be noted that the title of Hawtrey's work does not include "money."

R. G. Lounsbury (*American Economic Review*, December, 1937, pp. 765-767) develops the argument that "money" cannot be both a unit of account and a medium of exchange. It is either an abstract unit of measurement (like a yard) or a concrete instrument (like a yardstick).

Against this view, Howard S. Ellis opines (*American Economic Review*, March, 1938, pp. 102-103):

"Encountering sometime a highwayman who aims a brace of pistols with the rough command, 'Your money or your life' Professor Lounsbury would . . . remonstrate . . . 'My dear fellow, your manners are bad, but your use of terms is worse. I have recently shown that it is necessary 'to define money as the unit of account,' and that 'media of exchange can be called currency.' . . . Go home and think this over before you brandish firearms at people again.' " (Reprinted by permission.)

I can make no more of this witticism of Professor Ellis than that he thinks economists should use the same terms among each other and before the public that the highwayman uses before economists. I do not see that efforts of scientists to improve their terminology should make it impossible for them to grasp the meaning of those who do not use economists' terms.

II. OCCASIONAL IMPOTENCY OF LEGAL TENDER STATUTES

(In reference to p. 3: "there is a difference between what a government intends a people to do and what the people will in fact do.")

When a particular kind of currency is otherwise as acceptable as remaining elements, no damage is done by vesting it with legal tender power (that is, by requiring the creditor to give a receipt in full to the debtor who tenders this currency). Controversy arises, however, when a questionable currency is vested with legal tender power. The creditor would be injured by a tender of a depreciated currency, and his apprehensions lest it will depreciate may be an important fact leading to its depreciation.

It must be understood, however, that the legal tender quality creates in itself an artificial demand for the currency on the part of those who have old debts to discharge. But this demand is not nearly as great as that created by current transactions. In current transactions an offer of the disputed currency may be met by the refusal of the holder of goods to sell, or by raising prices. The extent to which prices are lifted, as against prices stated in terms of the more acceptable currency, measures the degree of depreciation of the disputed currency.

In the Civil War period greenbacks commanded in varying degrees lesser goods than did gold dollars. In reference to this experience we find the following in the *Report of the Monetary Commission of the (1896) Indianapolis Convention* of the American Bankers Association:

"With no change in the legal tender quality and no change in the indebtedness which might be paid with such notes, their value frequently rose or fell many per cent in a single day owing to reports of Federal successes or defeats in battle, which had a tendency to affect one way or the other the public estimates of the probabilities of an early resumption of specie payments."

But even on depreciated terms the greenbacks circulated. Generally they drove the better currency, gold, out of circulation. But in California and other western states the legal tender statutes proved impotent to push greenbacks into circulation. The tradesmen tendering greenbacks in payment of a debt would be ostracized in business, and statutes were enacted upholding the right of contracting parties to stipulate the specific medium of payment. Legal tender laws did not succeed in getting greenbacks into other than restricted circulation in these states. In reference to this episode see J. L. Laughlin, *Principles of Money*, p. 506.

There are also converse situations in which the withdrawal of the legal tender quality did not lessen the acceptability of the currency in question. One such episode is provided by Philippine experience in 1903 and 1904. In reference to it, Professor E. W. Kemmerer says (*Modern Currency Reforms*,¹ p. 330):

"The public and the local newspapers, for some time prior to the end of the year [1903], held the opinion that the death knell of local currency would be sounded when it ceased to be legal tender on December 31. This popular opinion, however, as was to be expected, was soon to receive a rude shock. . . . Business concerns which had been announcing for some time their

¹ Published by Macmillan, New York, 1916. Reprinted by permission.

intention to transfer their business to the new currency basis with the opening of the year 1904, when local currency should cease to be legal tender, now reversed their decisions and announced that they would be compelled to continue to use the old currency."

III. CURRENCY PRACTICES OF COLONISTS. RATINGS (see pp. 8-9)

The use of one medium, say, the dollar or piece of eight, to discharge a sterling debt made it necessary for lawmakers to rate the silver in terms of sterling. But rates once fixed were not unchangeable. According to Charles Jesse Bullock (*The Monetary History of the United States*, pp. 17-20, 23), nine colonies advanced the sterling value of the piece of eight between 1671 and 1697 and great diversities existed in the ratings of the different colonies.

Two factors entered into these measures to raise the currency in terms of the money of account, sterling. One was the ordinary tendency to alleviate the burden of debts. The other was the fact that currency would tend to drift toward the colony where it had the highest rating, and in which its purchasing power would therefore be the greatest. To protect against such a seepage of currency to other colonies a particular colony might be led to make a change in ratings that otherwise would not have been regarded as necessary. Such increases in ratings were essentially the same thing as the reduction in the gold contents of the currency units of different countries after 1931.

CHAPTER II

I. DOLLAR COINAGE

Prior to 1933 the (theoretical) gold dollar (dollar pieces were minted from gold between 1849 and 1889, but not afterwards, except for memorial pieces) consisted of 25.8 grains of gold, 0.900 fine. There was no charge for converting this "standard" bullion into coin. Brassage, in other words, was not exacted when the depositor presented gold bullion in the form the mint authorities required.

An ounce of standard gold would thus exchange for \$18.60 of coin ($480 \div 25.8$). It would require \$20.67 of coin to command an ounce of fine gold ($480 \div 23.22$). From 1792 to 1834 the gold content of the dollar was $24\frac{3}{4}$ grains of pure gold. In 1834 the dollar's pure gold was made 23.2 grains, and, from 1837 to 1933, 23.22 grains.

II. FRACTIONAL CURRENCY (see pp. 18-20)

In the Coinage Act of 1792, the presenter of gold or silver bullion to the mints would himself decide which denomination (among the range of those legally authorized) would be provided. In 1806, President Jefferson, to prevent the seepage of silver dollars to the West Indies, issued a proclamation estopping the coinage of silver dollars. By this proclamation silver coinage was forced into the smaller denominations. But the acts of 1834 and 1837 (for an able interpretation of these acts see Paul M. O'Leary, "The

Coinage Legislation of 1834," *Journal of Political Economy*, February, 1937, pp. 80-94) were intended to increase the circulation of gold coins. While the change in the relative content of gold and silver coins did not do away completely with silver coinage, it operated to restrict it (see H. Gordon Hayes, "Bimetallism Before and After 1834," *American Economic Review*, December, 1933, pp. 677-679). Our silver coinage was insufficient to meet the requirements of the public for fractional currency. In the Act of 1853 the new principles were therefore introduced of lowering the metallic contents of fractional silver coins; of restricting their quantity to the (estimated) needs of trade; and of abolishing the coinage of fractional currency on private account. Later, provision was made for the easy conversion of minor coins into the larger denominations (so as to mop up a possible excess). While the Act of 1853 set forth correct principles of providing fractional currency, it did not go far enough in reducing metallic contents. During the Civil War period, the greenback issues operated to drive silver as well as gold out of circulation. For an account of the inconveniences created by the poor condition of the minor currency in the Civil War, see Neil Carothers, *Fractional Money*, Chaps. XII-XV.

III. THE ASSIGNATS (see p. 20)

If the federal constitution had been framed just a little later, the French assignats would have provided additional illustration of the perils of an inconvertible paper currency. The discussions of the time indicate, however, that the assignat venture was undertaken by the revolutionary French government only with the greatest of misgivings. References to the unfortunate fate of John Law's currency at the beginning of the eighteenth century were common. In one respect at least John Law's scheme could be held sounder than the proposal to issue assignats. The land in the New World securing the Law currency might produce gold deposits so that the currency would come to have a gold backing.

The basic fault of most land and commodity currency schemes is that the security for the paper that is issued lacks physical homogeneity. If the amount of currency that is to be issued is determined, however, by the monetary value of the underlying commodity we start the following vicious circle. First, fresh issues of currency drive up the price of the security. Second, further issues of currency seem to be justified and are undertaken. Third, the price of the landed security rises still further. And so on. In the case of the German rentenmarks of 1923 an effort was made to avoid this difficulty by providing that the land mortgaged to secure the rentenmark should be evaluated in terms of gold.

Revolutionary France was in a desperate position on account of both exceptional economic and monetary adversities and the necessity of defending itself against monarchical attack. Most of the writers who point out the flaws in the assignat issues are strangely silent when it comes to recommending an ideal solution for the country's monetary problems.

The following are among the better references: S. E. Harris, *The Assignats*; A. D. White, *Paper Money Inflation in France*; R. G. Hawtrey, *Currency and Credit*, Chap. XVII; E. W. Kemmerer, *Money*, Chap. X.

CHAPTER IV

I. CARL BÜCHER'S THEORY OF THE ORIGIN OF MONEY

See p. 44. Compare the following from Carl Bücher's *Industrial Evolution*:¹

"How much has been written and imagined about the many species of money among primitive peoples, and yet how simple the explanation of their origin! *The money of each tribe is that trading commodity which it does not itself produce, but which it regularly acquires from other tribes by way of exchange.* For such article naturally becomes for it the universal medium of exchange for which it surrenders its wares. It is its measure of value according to which it values its property, which could in no other way be made exchangeable. It is its wealth, for it cannot increase it at will. Fellow tribesmen soon come to employ it also in transferring values, for because of its scarcity it is equally welcome to all. Thus is explained what our travellers have frequently observed, that in each tribe, often indeed from village to village, a different money is current, and that a species of mussel-shells or pearls or cotton stuff for which everything can be purchased to-day, is in the locality of the following evening's camp no longer accepted by anyone. The consequence is that they must first purchase the current commodities of exchange before they can supply their own needs in the market. In this way, also, is to be explained the further fact, which has come under observation, that exchangeable commodities naturally scarce, such as salt, cauri shells, and bars of copper, or products of rare skill, such as brass wire, iron spades, and earthen cups, are taken as money by many tribes not possessing them; and above all is to be mentioned the well-known circumstance of objects of foreign trade, such as European calicoes, guns, powder, knives, becoming general mediums of exchange."

II. THE FIRST AND SECOND UNITED STATES BANKS (see p. 47)

One of the difficult teaching problems in our subject is that of the amount of time that should be given to the explanation of the organization and operations of these banks, the first part of whose corporate life extended from 1791 to 1811 and the second from 1816 to 1836. Our opinion is that most of the detail should be surrendered to the instructor in American history. The minimum of information that the student should possess is an understanding, first, of the reasons for the creation of these banks; second, of the salient points of their organization and operating procedure; third, of the extent to which they deserve the frequent characterization of "central banks"; and, fourth, of the causes of their downfall.

As to the reasons for their creation, there should be stressed the difficulties to which the trade of the country was subjected because of the lack of an abundant supply of coin. It was desirable to supplement this limited stock. But Hamilton² felt it would be dangerous to rely on the government as the agency of paper currency issuance. We are seldom as strict in controlling our own activities as we are prone to regulate those of others. Neither did

¹ Pp. 67-68. Translated from the German by S. Morley Wickett. Holt, New York, 1901. Reprinted by permission. Italics are my own.

² See Report of Dec. 13, 1790, "On a National Bank."

Hamilton (and Congress) deem it wise to depend upon state banks as issue institutions and depositories of the Federal government subjected to Federal supervision. The only solution lay in creating an institution of issue and deposit answerable, according to its charter terms, to the Federal government.

If such an opinion should have been accepted by Congress, however, should it not also have been deemed necessary to prohibit the creation by state governments of issue institutions? Unfortunately Congress thought a soundly organized institution could surmount by the good it might do the evils of careless issuers of the payment media. The United States Banks, by demanding the prompt redemption of state bank issues, were able to keep the currency reasonably sound. But in so operating they could not avoid arousing state and local animosities. Just as soon as these animosities were capitalized in appeals to the debtor and inflation-loving interests, the downfall of the Federal banks was inevitable. Attacks against the motives of Gallatin, Cheves, and Clay were purely secondary.

Did these two institutions deserve characterization as central banks? The primary reason for this characterization is that both of them adopted policies which restricted reckless issues of notes by state banks. Regularly such issues, instead of being paid into circulation, were sent home for redemption. Depository services to the Federal government were of less significance than this control over the currency.

The branch system headed up by each of the parent banks should also be stressed. In those days of inadequate transportation and a large and relatively undeveloped territory, some means of offsetting regional debts was imperatively required.

The question whether a private organization should command large powers in the provision of currency we still have with us. Today this question takes the form of the adequacy of the deposit-granting operations of private banks.

CHAPTER V

I. DEFINITIONS OF A GOLD STANDARD MONETARY SYSTEM (see p. 51)

W. A. Brown, Jr., *England and The New Gold Standard*, pp. 3-4, Yale University Press, New Haven, 1929. Reprinted by permission:

"Before the war the international gold standard rested . . . upon two legal pillars: first, the identification by law of the monetary unit . . . with a certain weight of gold; second, the establishment of central agencies, whether treasuries, mints or central banks, at which gold could be freely bought and sold at fixed prices determined by the gold content of the monetary unit thus legally defined. It was further essential to the pre-war gold standard that there should be unlimited and unrestricted exchangeability between gold and all other types of money, and that no restrictions should be placed upon the use of gold coming into the hands of private citizens, either as currency or by purchase. Free convertibility, free melting, free export were the cornerstones upon which the administration of the old gold standard rested."

T. E. Gregory, *The Gold Standard and Its Future*, pp. 5-6, E. P. Dutton & Company, Inc., New York, 1935, reprinted by permission:

" . . . each and every form of purchasing power, bronze and copper, silver, bank notes and bank deposits, is ultimately convertible into the physical substance of which the unit of account represents a certain weight. If that physical substance is gold, the whole mass of purchasing power is convertible into gold, so long as the unit of account represents a certain weight of gold and *so long as convertibility is effectively sustained.*"

Horace White, *Money and Banking*, revised by C. S. Tippetts and Lewis A. Froman, pp. 80-81, Ginn and Company, Boston, 1935, reprinted by permission:

"The characteristics of the full, or complete, gold standard are as follows:

1. The actual monetary unit is a weight of gold. . . .
2. There is free and unlimited coinage of gold. . . .
3. There is free movement of gold into and out of the arts. . . .
4. All other kinds of money are redeemed freely on demand in gold. . . .
5. There are no restrictions upon the exportation or importation of gold. . . .
6. Gold is generally full legal tender for all debts. . . ."

II. THE GOLD STANDARD ACT OF 1900 (see p. 60)

In the acts of 1792, and also of 1834 and 1837, Congress endeavored, rather unsuccessfully, to set up a bimetallic monetary system. In 1873, the free coinage of silver dollars was suspended. In 1878 and 1890, Congress provided for the introduction of a limited amount of silver or paper representatives of silver into circulation. In 1896 Mr. W. J. Bryan campaigned unsuccessfully for the readoption of bimetallicism by this country, even without international cooperation. Clarity regarding the policy of our government in respect to the monetary standard was provided by the Gold Standard Act of Mar. 14, 1900.

This act was significant rather more as a statement of policy than for its specific instructions to the United States Treasury. It did provide for an increase in the Treasury gold reserves for the greenback issues. In the event this reserve should fall below 100 million dollars the Secretary of the Treasury was authorized to issue United States bonds to the extent necessary to bring this gold reserve up to 150 million dollars. The Treasury was also authorized to recoin some of the silver bullion acquired under the Sherman Act of 1890 into subsidiary currency. But the most significant provisions of this act was the general statement that "all forms of money issued or coined by the United States shall be maintained at a parity of value with this standard, [gold dollar of 25.8 grains, nine-tenths fine], and it shall be the duty of the Secretary of the Treasury to maintain such parity."

The bimetallic controversy came to a head in the campaign of 1896. Why was the Gold Standard Act delayed until 1900, and then enacted without much fanfare? Two facts are important. First, the party then in power seemed to be extremely anxious to avoid any animosity that might develop in the silver states if the Republican party should pass an act that might be interpreted as gloating over its 1896 triumph. Second, the Republican

party in the elections of 1896 was not exactly, if we may depend upon the provisions of its platform, a "gold party." It favored international bimetallism, opposed bimetallism by this country alone, and supported gold monometallism only on the assumption that an international agreement providing for the setting up of an effective bimetallic system could not be secured. After the election of 1896 it was incumbent upon the triumphant party to enter into negotiations with foreign representatives. The commission appointed to undertake these negotiations and headed by Senator Wolcott required some time for these discussions.

CHAPTER VII

I. ORIGIN OF ACCEPTANCE HOUSES (see p. 76)

Compare for instance, the following, in Hartley Withers, Sir R. H. Inglis, Palgrave and other writers (*The English Banking System*, pp. 54-55):

"a bill accepted by a small tradesman has no value outside his own street, if there, while one accepted by a great merchant house of unquestioned standing is an easily negotiable credit instrument. . . . The importance of the acceptor's name on a bill thus led merchants of first-rate standing to specialize in this form of business. They gradually left off or reduced the amount of their actual mercantile business and confined themselves to accepting bills, for a commission, for others whose credit was less well established. . . . The business of acceptance has thus grown up as an important and separate function which is largely in the hands of leaders among the old merchant firms . . . "

II. DISCOUNT HOUSES (see p. 76)

Like acceptance houses, English institutions that do a bill discount business may have had a mercantile origin. The following testimony of Lord Avebury, partners of Robarts, Lubbock & Co., before the National Monetary Commission, is interesting:¹

"Our bank was founded as a bank in 1772. Previous to that, however, my ancestors had been established as merchants, doing a certain amount of banking business. In that year the two businesses were separated, my great uncle, and afterwards my grandfather, however, remaining at the head of both concerns."

CHAPTER IX

I. RESTRICTIONS ON BANK ACCEPTANCE POWERS (see p. 97)

The first limitation to be mentioned relates to the purposes for which banks may accept drafts and bills. Section 13 of the Federal Reserve Act permits member banks to accept:

a. Bills growing out of transactions involving the importation or exportation of goods, or

¹ *Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland, and Italy*, p. 118.

b. Bills growing out of transactions involving the domestic shipment of goods, or

c. Bills secured by documents giving title to readily marketable staples, or

d. Bills to provide dollar exchange.¹

Except for the last type the intent of the lawmakers was to confine acceptances to self-liquefying transactions. The renewal of an acceptance accordingly is not approved practice. The time of maturation of the bill should not exceed the period customarily required to move goods and secure collection, and any renewal should take the form of a promissory note.

A second type of limitation refers to the aggregate amount of permitted acceptances, 50 per cent of the capital and surplus of the accepting bank, except that the Board of Governors of the Federal Reserve System may permit acceptances to be made to an amount equal to 100 per cent of a member bank's capital and surplus (but in no event to an amount exceeding 50 per cent of a bank's capital and surplus for domestic transactions).

Bills not secured by shipping documents or by some other evidence of the underlying transaction may not be accepted to an amount exceeding 10 per cent of the bank's capital and surplus.

What is the justification for such legal limitations on banks' powers to accept drafts and bills? In the first place, the framers of the 1913 act envisaged the development of the acceptance to an extent at which it might become an important part of the portfolios of many banks. In 1913 schools of banking reform might be classified under one of two headings. Proponents of the first school insisted that what was principally required was the creation of a central bank (or banks) whose resources should be husbanded for occasions of necessity and which should be made available to member banks largely by the rediscounting process. The other school insisted that surplus reserves ordinarily exist somewhere at the beginning of emergencies so that what was needed was to develop a means by which these surplus reserves could be mobilized at threatened points. To provide for such mobilization it was contended that interbank rediscounting should be encouraged, as it could be if banks should develop the practice of acquiring paper "intrinsically" sound. Such paper would be related to specific transactions in goods and should thus have a security additional to that of the parties involved.

The school whose adherents stressed the importance of a reform in commercial paper methods generally came to admit the necessity of creating a set of central banks. The central institutions might be required to support the market (and thus enhance the use of acceptances) in the developmental period.

Restrictions on acceptance operations were regarded, however, as necessary to protect the acceptance against abuse and to preserve any popularity it might gain.

A second argument advanced in 1913 in behalf of the strict regulation of acceptance operations was that acceptances might become a powerful instru-

¹ The purpose of this transaction is to enable places with inferior mail communications to draw drafts against American banks which, when discounted, provide them with dollar credits.

ment of commodity price inflation. A bank without surplus reserves might accept its customers' drafts and put them in a position to obtain credit elsewhere. In this way unlimited credit resources outside a particular locality might be made available to domestic enterprise and operate upon particular prices. Price inflation, furthermore, might be produced quite as much from the more intensive use of existing bank reserves as from increasing their volume.

It was also understood that acceptances do not give rise to deposit credits at the accepting bank. A reserve deficiency, therefore, would not tend to develop at the accepting bank. To prevent Bank *A* from grabbing too much of the business, it seemed logical to base the total accepting it could do upon its capital position. Thus limitations were enacted into law according to which acceptances could not exceed a certain percentage of a bank's capital and surplus.

II. EFFECT OF FINANCE BILLS ON DOMESTIC CREDIT CONDITIONS (see p. 103)

Under certain circumstances the sale of a finance bill by Bank *A* to a depositor of Bank *B* might tend to ease the domestic credit market. In the operation the drawer and seller of the draft, Bank *A*, it is true, would gain precisely the reserves that the buying Bank *B* would lose. But the buyer of the draft might be a depositor of Bank *B*. We shall designate this depositor, whether a firm or individual, *b*. The amount of *b*'s check offered in payment for the draft will be charged against *b*'s account at *B*. Deposits are thus reduced, while reserves remain the same (what *A* gains, *B* loses). But the reduction in deposits of *B* would release reserves which might be employed as the base for a larger amount of new credit offerings.

Assume a finance bill is sold to a depositor of Bank *B* by a house which is a depositor of Bank *A*. In this case reserves would be shifted from *B* to *A* (in clearance) while *a*'s increase in deposits is matched by *b*'s loss of deposits. It is possible, however, that *A*'s reserve requirements (on account of its particular reserve classification) are less than those of *B*. In this event reserves would be released to support increased bank deposits. The opposite result would occur if *B*'s reserve requirement were lower than *A*'s.

III. EFFECT OF FINANCE BILLS ON GOLD SUPPLIES (see p. 103)

Compare what is said with Ira B. Cross, *Domestic and Foreign Exchange*, p. 215:

"In this way the floating of finance and loan bills usually keeps exchange rates from going to a point where it is profitable to export gold, and therefore assists in *protecting* [italics are ours] the gold supply of the drawing country."

Compare also with William H. Steiner, *Money and Banking*, p. 837:

" . . . neither operation [both are of the finance bill type] per se affects the gold reserves and hence the money market, although both affect the foreign exchange market."

CHAPTER XI

I. SOURCES OF INFORMATION

In writing this chapter I have depended for material largely on my doctoral dissertation, deposited in the Cornell University Library in 1914, *The Development of a Qualified Gold Exchange Standard in India*. The most important primary sources are the various Parliamentary Papers (English blue books) relating to East India and including:

Explanatory Memorandum by the Under-Secretary of State for India (annual).
Financial Statement of East India (annual).

Statèment Exhibiting the Moral and Material Progress and Condition of India, (annual).

The Indian Currency Committee of 1892, Report, Minutes, and Evidence.

The Indian Currency Committee of 1898, Report, Minutes. and Evidence.

Secondary sources included:

M. BOTHE, *Die indische Währungsreform seit 1893*.

OTTO HEYN, *Die indische Währungsreform*.

H. F. HOWARD, *India and the Gold Standard*.

A. M. LINDSAY, *Ricardo's Exchange Remedy*.

H. D. MACLEOD, *Indian Currency*.

KURT SINGER, *Die Motive der Indischen Geldreform*.

Valuable works later available include:

E. W. KEMMERER, *Modern Currency Reforms*, Chaps. I to VII.

J. M. KEYNES, *Indian Currency and Finance*.

II. INTERNATIONAL MONETARY CONFERENCES (see p. 123)

The conferences to which reference was made were those held in 1878 in Paris, in 1881 also in Paris, and in 1892 at Brussels. Impetus to holding the latter conference was provided in part by India's consternation at prospects the United States would suspend silver purchases. Particularly was this true after 1890. Like earlier conferences, that held in Brussels failed to evoke effective recommendations to reestablish international bimetalism.

For information concerning the Brussels conference, see *Report of the Commissioners on Behalf of the United States* and *Journal of the Sessions of Nov. 22, 1892*. Also see H. B. Russell, *International Monetary Conferences*.

CHAPTER XIII

I. PRICE INDEX NUMBERS

References in this chapter to index numbers have assumed their function to be that of facilitating measurement of one of the terms of a general-purpose equation of exchange. For this purpose the prices that are averaged should be numerous and comprehensive. For other purposes, however, the general level of prices, of Snyder's type, might be decidedly abstruse and

unreal. Wages enter largely into Snyder's general price level, and properly so because currency is expended upon wages. But a consumer of the products of labor would not be directly interested in the course of wages. Nor would a security market investor care to have wages or rents or retail prices included in an index designed to show merely changes or deviations in security prices between localities.

The fundamental difficulty of using index numbers is that different ones of us live in different price "universes." Currency, unfortunately, does not have just one exchange value (purchasing power) but as many values as there are goods for it to exchange against. In terms of the goods in which one person is interested the monetary unit might be rising in value, while in the same period it might have lessening worth in terms of another party's goods. In view of these confusions only the unsophisticated expect index numbers to provide exact answers to such questions as how much more or less the dollar now purchases than it did in 1920.

Other serious difficulties are encountered in index number construction. Even though there be no dispute about the particular purchasing powers of the monetary unit that we are interested in, controversies about methods of averaging we would still have with us. For the initiated we may illustrate a few of these difficulties.

Let us assume a consumption goods index number to be composed of only two commodities, anthracite coal and hats. In 1910 a ton of coal sold for perhaps \$5.00 and in 1920 for \$10.00. The 1910 price of hats we shall assume to have been \$5.00 and the 1920 hat price \$2.50. Here we have a period in which one commodity doubled in price, while the price of the other was halved. Was the dollar's purchasing power in terms of these two commodities unchanged?

Suppose we proceed by the method of averaging percentage changes and let percentages for 1910 be set equal to 100. (In other words, 1910 is the base year.) We would then have:

Commodity	1910		1920	
	Price	Per-centage	Price	Per-centage relative
Coal (ton).....	\$5.00	100	\$10.00	200
Hat (one).....	\$5.00	100	\$ 2.50	50
Average of relatives.....	100	125

The price level (in terms of just these two commodities) has thus increased 25 per cent, and the purchasing power of the dollar seems to have diminished to $10\frac{1}{4}\%$, or by 20 per cent. But 1910 was arbitrarily selected as the base year. Suppose we set 1920 as the base. We then would have:

Commodity	1910		1920	
	Price	Per-centage	Price	Per-centage relative
Coal (ton).....	\$5.00	50	\$10.00	100
Hat (one).....	\$5.00	200	2.50	100
Average of percentage relatives....	125	100

The price level now appears to have been 25 per cent higher in 1910 than in 1920, and the purchasing power of the dollar 20 per cent lower in 1910, whereas with 1910 as the base reverse results were obtained. Much, therefore, seems to depend on the year that was arbitrarily selected as the base.

To what must we attribute this discrepancy? The answer lies in the peculiarities of percentages. Halving a price lowers its relative percentage by only 50 while doubling a price increases a relative percentage by 100. In a period in which as many prices are moving upward as downward there is a bias in favor of the exaggeration of price increases.

How can this bias be minimized? Different methods of averaging relatives might be employed. One such alternative type of average is the median. To illustrate, assume the following relatives:

1900	1910	1920
100	50	40
100	75	80
100	90	90
100	110	120
100	140	140
100	150	160
100	200	250

The midmost term for 1910 (the median) is 110, instead of an arithmetic average of 116. For 1920 the median is 120 instead of an arithmetic average of 125. Even if in 1910 the lowest relative were 20, instead of 50, and the highest 500, instead of 250, the median for that year would be unchanged. A property of the median is thus that of minimizing the influence of a few extreme terms and to prevent domination of the average by a sporadic or unrepresentative term. The geometrical method of averaging (multiplying the relatives together and taking a root, the index of which corresponds with the number of terms) has also been employed to lessen the influence on the averages of extreme terms.

Another method of constructing index numbers may be employed to avoid giving extreme terms undue influence. Under this method, averaging of percentage relatives for individual items is avoided. Instead, the total price of a selected groups of commodities is compared with the aggregate of prices of the same commodities for a different period. If, for instance, a certain "market basket" of commodities would exchange for \$20 in 1910 and for \$22 in 1920, the index number would disclose a price rise of 10 per cent in the period.

But what commodities shall thus be aggregated? This question brings up the difficult question of weighting. If the purpose of such "market basket" indexes is to determine changes in the cost of living, the goods on which interested parties expend the most should be in such quantity that their price changes would not be offset by equal though converse price changes of less important commodities. If the method of averaging relatives is used, weighting simply results in adding relatives to those to be averaged of the more important items. In our hat and coal illustration, for instance (where 1910 was the base), coal relatives might be multiplied by 9 (if nine times as much expenditure were devoted to coal as to hats) and the total divided by 10. The 1910 index would thus be $\frac{9 \times 200 + 1 \times 50}{10}$, or 185 (instead of 125).

Problems of determining weights are several. To what dates should the weights apply? Relative amounts of purchases may change from time to time. Decision has to be made whether weighting shall be based on the relative consumption of the base period or of some other point of time. Certain commodities that were highly important in the first period may lose importance later on. An illustration of this latter fact would be bicycles between 1900 and 1910. In such cases it may be desirable to substitute some other commodity of increasing importance as an originally chosen commodity loses importance. It should also be kept in mind that a consumer tends to substitute relatively cheap goods when he can for those whose prices rise.

The construction of index numbers is thus a science in itself. Authorities maintain, however, that technical difficulties (methods of averaging weighting, substitution, and splicing) have been reasonably well mastered. They more or less agree that the principal problem is now that of choosing the commodities to be included. In this chapter, discussion concerned the price index best suited for the purpose of verifying a general purpose equation of exchange. Such an index must represent, therefore, a comprehensive array of prices.

Reading references on the construction of index numbers should include:

E. E. DAY, *Statistical Analysis*, pp. 328-367.

IRVING FISHER, *The Making of Index Numbers*.

C. M. WALSH, *The Measurement of General Exchange Value*.

ALLYN A. YOUNG, "The Measurement of Changes in the General Price Level," *Quarterly Journal of Economics*, August, 1921, pp. 557-573.

CHAPTER XIV

I. VELOCITY IN RELATION TO TRADE TRANSACTIONS

An interesting illustration of a common tendency to apply the equation of exchange casuistically is provided by a letter to the author from the president of a national merchandising company in 1938. In this letter the chain groceries were held to be responsible for a large part of the depression in business activity. It was pointed out that, through the medium of chain stores, goods pass through fewer hands in their journey from manufacturers to consumers. This reduction of middlemen's activities lowers the volume of currency turnover, and consequently V of the equation of exchange. A low velocity of currency is a phenomenon of poor business. Consequently it was argued that chain store activities should be abolished, or at least restricted, so that currency could find normal employment.

It need only be remarked that there is no utility in increasing transactions. What we require is more goods, not more transactions in goods. This is not intended, of course, to be a defense of chain-marketing organizations.

II. THE DEFINITION OF "INFLATION" AND "DEFLATION"

The student who tries to be precise in his terminology will probably experience at least as much difficulty with "inflation" and its antithesis "deflation" as with any expressions commonly employed in monetary literature. What, for instance, is the difference between inflation and mere currency expansion? Does the mere fact that price averages have increased prove the contention that there is inflation, just as, on the other hand, declining price averages would confirm the charge of deflation?

In deference to usage outside the field of money and currency, the writer believes the term "inflation" connotes reproach and should be reserved for situations in which it is appropriate to condemn monetary policy. A bubble is said to be inflated when it is stretched to the point at which it is likely to burst shortly. But when has monetary stimulation been provided to an undesirable extent? It is clear that no single test can be applied to all situations to provide an answer to the question. Perhaps the mere fact of an increase in price averages would be sufficient proof of inflation in periods in which prices are being altered sensationally. But the question is more difficult when price changes are moderate. In such periods it is necessary to inquire whether, among other considerations:

1. The right prices have been averaged. Herein, our concern should be broader than that of the welfare of particular classes.

2. It would contribute to a sounder economy if prices had not increased. Perhaps adequate rainfall and rapid technological progress have operated to depress certain prices, so that in maintaining the average of prices at a previous level particular prices were lifted to a dangerous height.

3. Better tests than the movement of prices could be provided to determine the soundness of the monetary policies that were pursued, such as,

- a. The extent to which credit had been employed to build up inventories to excessive size.
- b. The relationship between different groups of prices and component items thereof.
- c. The extent to which the economic society in which we have interest has utilized its productive powers.
- d. The relationship between output changes in consumption and capital goods industries and in component items thereof.
- e. The relationship between purchasing power of the monetary unit at home and abroad.
- f. The intensity of speculation in goods and securities.

So we could proceed. It is obvious that a single objective test of inflation cannot be provided. The factors that should be taken into account must vary with differing situations. "Inflation" can only mean that, in the opinion of the speaker, there has been too much monetary stimulation. "Deflation," on the other hand, means that monetary restraint has been carried too far (in his judgment).

CHAPTER XV

I. THE DISTINCTION BETWEEN DEALERS AND GENERATORS OF DEPOSIT CREDIT

The basic difficulty of the problem of determining the source of bank deposits is the fact that all banks derive deposits from other banks. This fact seems to place fully equipped depositories in the same class as specialized financial institutions like banks and insurance companies.

This difficulty can be got around perhaps by assuming only two banks in the entire country. Assume that the first bank, *A*, fully equipped as a depository, has branches throughout the country. The other institution, *B*, a savings bank, is also assumed to have numerous points of contact with the public.

The first institution, *A*, may generate deposits to a certain multiple—say 5—of its reserve. The second institution, *B*, operates without any legal reserve requirement. But almost simultaneously with a loan it loses cash or deposits in *A*. It will not be generally used as a depository by the recipients of the proceeds of the loan it makes.

B, in other words, is always operating defensively in the clearance system. Its solvency would be threatened the very moment it granted loans in excess of its cash. This, however, is not true of *A*. *A*'s deposit facilities make its deposits accepted as the equivalent of circulating currency.

It should also be kept in mind that to increase *A*'s branches might not increase its deposit-generating power. It is true that *A* might not have enough branches and that the public might be required to deal in cash to a larger extent than if its branches were more numerous. On the other hand, the country might be sufficiently provided with branches so that to increase their number would merely require that the same volume of deposits be divided among more branches.

It should be borne in mind further that, although its inability to hold demand deposits does handicap *B* as a depository, this is not to say that time deposits are not currency. *A* may generate time deposits; these deposits can probably be converted into demand deposits; and, even as time deposits, they serve one of the important functions of currency. Their possession guarantees the owner's ability to discharge a monetary debt. The actual use of currency to discharge debts bears upon the velocity, not upon the supply, of currency.

To say that time deposits are not currency would lead to strange conclusions. Suppose \$100,000 of demand deposits in *A* are converted into time deposits in *B*. Has the public's currency supply been reduced? Since borrowers can appeal perhaps more easily to the savings bank than to scattered depositors in *A* the ability of the borrowing public to obtain currency has been increased. It would be anomalous to take out of the category of currency the kind of a deposit whose increase rendered bank credit more, rather than less, available.

II. THE USE OF TIME DEPOSITS AS PAYMENT MEDIA (see p. 172)

The following is a quotation from the Report of the New York State Banking Board for 1940 [see *Report of the Superintendent of Banks, Legislative Document* (1941), No. 24, pp. 54-55]:

"The Banking Board has again had occasion during the past year to consider a proposed plan for the establishment of a bill paying service by savings banks. The plan in question contemplated the operation by savings banks of accounts which would have served many of the purposes of ordinary checking accounts. As in a somewhat similar case arising a few years ago, the opinion of the Attorney General was requested upon the question of whether savings banks have the power, under the existing provisions of the Banking Law, to maintain such a service. The Attorney General again expressed the opinion that savings banks do not have the power to accept and operate accounts of the type under discussion.

This question has been treated in the past from a strictly legal viewpoint, without regard to any broader questions of policy which might be involved. The Board now feels that it may be desirable to make a statement as to its position with respect to the establishment by savings banks of bill paying services, or their acceptance of checking accounts, whether in restricted or unlimited form. This State has had two types of banks—savings and commercial. Savings banks have been created, regulated and taxed upon the theory that their purpose is to render a service to thrifty individuals who should be afforded the greatest possible protection in the accumulation of their small savings. On the other hand, one of the principal functions of commercial banks has been to supply the need for a circulating medium; originally through the issuance of bank notes, and later by making available to the public facilities through which credit instruments, largely in the form of checks, serve many of the purposes formerly served almost exclusively by currency. This basic distinction between savings banks and commercial banks still exists and the Banking Board believes that it should be perpetuated. The fact that many commercial banks have accepted

thrift deposits is not regarded as a justification for the transformation of savings banks into commercial banks. Yet such would be the necessary result if savings banks were permitted generally to accept checking accounts or their equivalent. Savings banks, as presently constituted, fill an important place in our social and economic structure, and perform an indispensable public service. The Board feels that they should continue to fill this place and perform this service, leaving to commercial banks, of which there are an abundance in this State, the fundamentally commercial banking function of accepting checking accounts."

CHAPTER XVIII

I. THE RATIO OF CAPITAL TO DEPOSITS (see p. 208)

The difficulty of insisting on the rigid observance of the 1 to 10 ratio is brought out by the following from the *Report* of the Banking Board of New York for 1940: (See *Report of the Superintendent of Banks*, State of New York, Legislative Document (1941), No. 24, pp. 53-54.)

"Early in the year 1940 the Board found it advisable to give attention to the fact that a few banks and trust companies did not meet the traditional 1 to 10 ratio of capital to deposits. This condition is largely the result of recent abnormal increases in deposit liabilities. The 1 to 10 ratio has quite generally been considered as constituting the minimum acceptable standard for the relationship between capital funds and deposits. The Board gave full consideration to the question of what constitutes an adequate capital ratio for the typical institution under existing conditions. This consideration took into account tables prepared by the Department showing that despite the recent general decrease in the ratio of capital funds to deposits, there has been, within the past few years, a substantial decrease in the percentage of gross deposits subject to investment risks. The amount of deposits subject to investment risk was determined for this purpose by deducting from gross deposits the aggregate of cash on hand, amounts due from other banks and other cash items. The Board necessarily gave weight to the large relative increase during the past several years in investments by banks and trust companies in government obligations and other high-grade securities.

As a result of its study the Board reached the conclusion that at the present time the Banking Department, in determining the adequacy of the capital funds of any institution, should place greater emphasis upon asset quality than upon compliance with any arbitrary measure or formula. The Board therefore recommended to the Superintendent that the aggregate of cash assets (including cash on hand, due from banks and cash items) be deducted from total deposits in determining the suitability of an institution's capital position. The opinion was also expressed that the Superintendent, in determining the amount of deposits subject to investment risk, might offset against gross deposits all holdings of government obligations maturing within two years. The Banking Board is of the opinion that the capital protection afforded to depositors must be determined primarily upon the basis of asset composition and that banks should not be required to obtain

new capital solely because they may fail to comply with an arbitrary standard fixing a theoretically desirable relationship between capital funds and deposit liabilities."

CHAPTER XXI

I. SUMMARY OF BRANCH BANKING LEGISLATION (see p. 240)

The original national banking legislation conveyed no specific authority to national banks to establish branches. Prior to 1923 such domestic branches of national banks as existed were branches of state banks absorbed in national banks by conversion or merger. In 1922, however, the First National Bank of St. Louis tested the authority of national banks to establish branches by establishing a branch and acquiring options on sites in the city suitable for other branches. Missouri law prohibited branch banking. In 1924 the United States Supreme Court held against the First National Bank of St. Louis. It thus became clear that in states where law was hostile to branches of state banks, national banks, also, had no power to establish branches.

It still remains national policy to accept state opinion on the question of the permissibility of branches. Gradually, however, national banks have acquired power to establish branches in states where law permits state banks to maintain branches. As a first step in this direction the Comptroller of the Currency obtained a ruling from the Attorney General in 1923 to the effect that in states that permitted branches for state banks national banks might establish "additional offices" in the same city as the domicile of the national bank. In these additional offices restricted banking functions presumably could be conducted, such as receiving deposits, providing currency, and accepting loan applications for transmission to the head offices. Controversy over the permissible powers of these offices was subdued by the passage in 1927 by Congress of the McFadden-Pepper act.

This act permitted national banks to operate branches on the same terms and conditions as state banks in states where permissive statutory authority existed. These branches might perform a complete banking service. Restrictions on the branch powers of national banks under this act were based on the population test. Thus, national banks could not establish branches in localities in which the population was less than 25,000. No more than one branch could be established in a city of less than 50,000 population, and not more than two branches in cities under 100,000 population. If the population should exceed 100,000, discretion as to the permissible number of branches would reside in the Comptroller of the Currency.

A large part of the justification for the enactment of the McFadden-Pepper Act was provided by the argument that it was necessary to preserve the Federal Reserve System. It was pointed out that national banks were the only compulsory members of the Federal Reserve System and that in the large cities of states permitting branches national banks were especially handicapped. As a city grew in population and suburbs developed, accessibility of the main institution was lessened, and competing state banks could use branches to siphon in deposits. Under these conditions many

old national banks threatened to abandon the national system if amelioratory legislation was not provided.

After the bank closures of 1933, arguments for further branch legislation emphasized the needs of small, as well as large communities. It was asserted that failures had deprived many such communities of adequate banking service and that it might never be profitable to reprovide them with completely equipped unit banks. All kinds of ingenious plans were being devised to enable such localities to be serviced, such as the teller's windows of Iowa, and branches that might be open for business on selected days of the week. So far as state banks were concerned, what was done was in accord with state law. But the Banking Act of 1933, the Glass-Steagall Act, contained provisions relating to branch powers of national banks.

Under this act, national banks are authorized to have branches on the same conditions as express statutory authority outlines for state banks. A national bank, however, may not have a branch outside its home city unless it has a capital of \$500,000 or more, except that in states with a smaller population than 1,000,000 and with no cities exceeding 100,000 in population the capital may be as low as \$250,000, and except further that in states with less than 500,000 population and with no cities exceeding 50,000 the minimum capital may be \$100,000. In addition to these restrictions, the capital of the parent bank and its branches must aggregate the same amount as if each branch were a unit bank. By this legislation national banks were given authority to establish branches outside the home city in states where state institutions have that right. This act also specified that state member banks shall have the same branch powers as national banks.

The future of branch banking thus depends under present law on the attitudes of state legislatures. The following compilation, which appears in the October, 1939, issue of the *Federal Reserve Bulletin*, summarizes the situation as follows:

States permitting state-wide branch banking—19.

States permitting branch banking within limited areas—17.

States prohibiting branch banking—9.

States with no legislation regarding branches—4.

Total (including District of Columbia)—49.

It is probably correct to say that the majority of academic authorities favor, in principle, liberal branch powers. The author's own position is more conservative. He feels that there has been a pronounced tendency to permit sympathy for inconvenienced localities to lead us into another era of excessive and unprofitable expansion of bank facilities and that it is desirable to go slow, at least, in authorizing territorially expanded bank systems. It would seem wise to obtain final answers to such fundamental questions as the extent to which banking specialization shall be encouraged before answering the branch question with finality. If there is to be increased specialization it may be discovered that the need for branch systems pertains to certain types of financial institutions only, and not to all types. Preliminary, also, to a decision about the branch question is the adoption of a permanent policy in reference to chartering authorities and supervisory agencies.¹

¹ See Chap. XL.

CHAPTER XXV

I. DISTRIBUTIVE CONSEQUENCES OF INFLATIONARY WAR FINANCE

Wesley C. Mitchell says (*History of the Greenbacks*, p. 400, University of Chicago Press, Chicago, 1903, reprinted by permission):

"The enlarged consumption of wealth [during the Civil War] which the paper currency made possible for the fortunate few was therefore contrasted with a diminished consumption on the part of the unfortunate many. . . ."

CHAPTER XXVII

I. EMOTIONAL ARGUMENTS IN BEHALF OF RETURNING THE POUND TO ITS FORMER GOLD PARITY

When the public is confronted with a difficult monetary problem, and the methods of analysis are not clear, discussions are likely to be of a purely literary character and rely heavily on analogical illustrations. Such was the nature of the following editorial which appeared in *The New York Times* on Feb. 2, 1925:¹

"Ulysses"

"One traveler is returning after long and perilous adventure in stormy seas and strange lands. He has not yet set foot on his natal shore, but his bark is within sight of port. Any moment may bring us the sound of jangling bells and loud gunfire saluting the absent one. His name is the Pound Sterling. On Saturday he was \$4.79 $\frac{5}{8}$ and home.

"It has been a post-war Odyssey not overshadowed by other romantic war travels: the Odyssey of the crew of the Emden, the Odyssey of the Czechoslovaks all the way from Russia across Siberia and the Pacific and the Atlantic back to Prague. Like the companions of Ulysses, the Pound Sterling was tempted to eat of the fruit of Lotusland and remain there forever, stabilized at somewhere in the neighborhood of \$3.50. Like Ulysses, he put aside temptation. He abided for a while in the island of Circe, who turns good men into swine, good money into quadrillions of paper trash; and in February 1920 when Ulysses was down to \$3.18 it seemed as though greenback Circe would have her will with him, but he broke loose from the arms of the enchantress. He had a close call in passing the rocks of the Sirens. They sang enchanting songs about inflation as a stimulus to trade. But John Bull sterling stuck cotton into his ears, tied himself to the mast and sailed on, while his German, Austrian, Polish, Soviet companions went overboard to their doom.

"Not the least arduous of the adventures of this new Ulysses confronted him when he was cast up on the shores of the great Western Continent and was taken in hand by the local Debt Funding Commission, which proceeded to administer heroic treatment. Will it kill or cure the patient? Even the stout heart of Ulysses sagged for a while under the ordeal. He refused to be comforted by assurances that the process hurt the doctors more than it hurt him. But he braced himself to the dose and it did him good. He

¹ Reprinted by permission.

departed for home with his chest stuck out, not a charity patient, but a man who could pay his way. After what the Debt Funding Commission did to him nothing else mattered.

"And now he is on his own threshold. Would he come back, indeed, like Ulysses, or like Enoch Arden? Like Ulysses. All these years Penelope has been faithfully waiting for him. With courage, with art, she has been standing off the suitors who have been wooing her with all sorts of gifts, with inflation, with State socialism, with Guilds, with miraculous concessions in Sovietland. Penelope has remained true to \$4.86\frac{1}{2}\%\$. The candle has kept burning in the window. The sea coal fire has been burning on the hearth. As the returned traveler peeps in at the window he sees home as he left it: a King, a House of Lords, a Majesty's Government, a Majesty's Opposition, trade, unemployment, letters to the editor of *The Times*, cricket, football, fox hunting in the shires, home. It is, in part at least, his reward for insisting that there is, after all, something to be said for gold and the guinea's stamp."

CHAPTER XXXII

I. RETIREMENT OF THE NATIONAL BANK NOTES FROM CIRCULATION

Every since the passage of the Federal Reserve Act in 1913 monetary students had been advocating the retirement from circulation of the national bank notes. Two purposes were uppermost in their proposals. The first was to make a start in simplifying our currency system so that eventually, perhaps, our authorized circulating currency would consist exclusively of minor coins and Federal reserve notes. The second purpose was to concentrate note issue powers in the reserve banks.

In 1935, however, a special consideration probably influenced official opinion on this matter. The President had not employed fully the discretionary powers granted him by the inflation bill of 1933, and inflationists were not satisfied with the limited degree of reflation that had been attained. It was difficult to withstand demands for the injection into circulation of more currency, even though bank reserves were rising rapidly, while the profits of revaluation, over and above the requirements of the stabilization fund, had not been utilized. Unless some use were found for these profits the demands of the bolder members of the inflationist faction might have to be met. These circumstances undoubtedly had a bearing on the move to utilize about 645 million dollars of revaluation profits in retiring bonds deposited by national banks to secure their note circulations. If the bonds were canceled the notes must be retired.

A series of measures provided for the retirement of the national bank notes and the cancellation of their bond security. On Mar. 2, 1935, the Comptroller of the Currency announced that national banks would be required before July 22 to substitute other bonds as collateral for the notes (in place of those bonds whose circulation privileges granted by the Federal Home Loan Bank Act of July 22, 1932, were then to expire). On Mar. 2, 1935, the Treasury announced that the remaining bonds carrying the circulation privilege, the 2 per cent consuls of 1930, as well as the 2 per cent Panamas of 1916-36 and 1918-38, would be called for payment.

National banks were thus required to deposit with the United States Treasury, before these call dates, enough lawful currency to retire the notes. (Credit, of course, was given for their 5 per cent redemption funds held by the Treasury.) To provide these funds the national banks drew against their balances so that the effect was to transfer reserve credit from the banks to the Treasury. When the call date arrived the Treasury drew against its reserve account in favor of the banks to pay for the retired bonds. In this way bank reserve balances were restored and without creating a reserve shortage. The physical cancellation of the notes would occur when they should reach the Treasury, either direct from banks or in revenue operations. The Treasury credits that were utilized to redeem the bonds had their origin in the profits of gold revaluation.

The national bank notes thus took their place with the Treasury notes of 1890, and the Federal reserve bank notes, as currency substantially withdrawn from circulation. But recent silver acts have made it impossible to proceed with the retirement from circulation of silver dollars and silver certificates, and no move has yet been made to get greenbacks out of circulation. Our currency system still awaits the completion of the simplification that has been generally advocated.

CHAPTER XXXIII

I. THE TRIPARTITE AGREEMENT (see p. 382)

On Sept. 25 and 26, 1936, the United States, France, and the United Kingdom issued similarly worded declarations to the effect that they would try to avoid unnecessary dislocations in foreign exchange rates. It was stated in paragraph five of the American declaration that "The Government of the United States, in common with the Governments of France and Great Britain, desires and invites the cooperation of the other nations to realize the policy laid down in the present declaration. It trusts that no country will attempt to obtain an unreasonable competitive exchange advantage and thereby hamper the effort to restore more stable economic relations which it is the aim of the three Governments to promote."

Shortly thereafter, on Oct. 13, 1936, the Treasury Department of the United States released the following statement in regard to measures to render the general policy effective: "until, on twenty-four hours' notice . . . the United States will also sell gold for immediate export to . . . those countries whose funds likewise are offering to sell gold to the United States. . . . The Secretary announces herewith, and will hereafter announce daily, the names of the foreign countries complying with the foregoing conditions. . . . Sales of gold will be made at \$35 per fine ounce, plus one-quarter per cent handling charge. . . ."

The significance of the gold sales agreements was the fact that they would facilitate and widen operations of the exchange control agencies, which agencies were under agreement to avoid unnecessary exchange fluctuations. Offsetting capital inflows are dangerous when the foreign currency that is acquired is not convertible into gold.

II. BILATERAL CLEARINGS (see p. 390)

Clearing arrangements have been utilized for such diverse purposes and under such varied conditions that it is difficult to provide a generalized description. Let us then outline a hypothetical situation in which clearing might be an effective means of increasing trade between two countries.

Country *A*, we shall assume, is short gold reserves, but has excess capacity to produce coal. Country *B* is also short gold but can easily enlarge its output of copper. Country *A* hesitates to buy *B*'s copper because it fears that *B* would employ the proceeds to purchase products other than coal and from other nations. For similar reasons, *B* hesitates to buy coal from *A*. Under these conditions trade is restricted even though both countries have unemployed resources as well as the ability to produce what the other country itself cannot.

Why, then, should not an arrangement be concluded whereby *A* will buy *B*'s copper under the condition that *B* employ the proceeds in whole, or in part, to purchase *A*'s coal? A means of accomplishing this result would be to set up a clearing agency in each of the two countries. Copper importers in *A* may be required to pay their domestic currency to the clearing agency of *A*. Such payments would provide the resources out of which the agency would make payments to those in *A* who export coal to *B*.

In similar fashion, coal importers in *B* can be required to make their payments of local currency to the *B* clearing agency, and exporters of copper in *B* can be paid out of the proceeds of this payment. If *B* imports more than it exports some of its exporters may be obliged to wait their turn to receive payment.

The clearing agency in *A* will thus acquire claims against *B*, and *B* will obtain claims against *A*. How will the currency of *A* be evaluated in terms of that of *B* so that net balances can be determined? The rate of exchange will be fixed by negotiation. It may or may not be in accord with market quotations.

How many products will be covered by such clearing arrangements? This, also, is a matter of negotiation and contract. Perhaps the debtor country will be authorized to sell its products to the creditor country to a value exceeding its purchases under the stipulation that the balance be employed to reduce a previously outstanding debt.

The above would illustrate bilateral clearing arrangements. Since one of their functions is to block a portion of the proceeds of sales to pay for purchases, they may be especially serviceable in restoring trade when the gold standard is not functioning adequately. It is predicted by such authorities as Paul Einzig (see *The Exchange Clearing System*), that bilateral arrangements of this and other types will come to be regarded as orthodox means of supplementing freely financed trade in future disturbed situations.

Clearing arrangements might be purely unilateral (employed by one country only). Unilateral clearing would mean that importers of the country would be prohibited against direct payments to foreign exporters. Exporters would be compensated only by the clearing agency. Similarly, more than two countries might participate in the clearing.

LIST OF REFERENCES CITED IN THE TEXT

- AMERICAN BANKERS ASSOCIATION: *Report of the Monetary Commission of the Indianapolis Convention*, The Hollenbeck Press, Indianapolis, 1900.
- B. M. ANDERSON: "A Critical Analysis of the Book by Lauchlin Currie 'The Supply and Control of Money in the United States,'" address before the New York Chapter of the American Statistical Association, Apr. 26, 1935.
- : "The Gold Standard and the American Gold Tradition," *Chase Economic Bulletin*, Nov. 20, 1931.
- JAMES W. ANGELL: "The 100 Per Cent Reserve Plan," *Quarterly Journal of Economics*, November, 1935, pp. 1-35.
- WILLARD C. BEATTY: *Security Loans, 1924-1930*, doctoral dissertation deposited in the Cornell University Library, 1941.
- BENJAMIN H. BECKHART: *The Discount Policy of the Federal Reserve System*, Holt, New York, 1924.
- : "Monetary Policy and Commercial Bank Portfolios." *American Economic Review*, supplement, March, 1940, pp. 17-26.
- J. H. BLISS: *Financial and Operating Ratios in Management*, Ronald, New York, 1923.
- M. BOTHE: "Die indische Währungsreform seit 1893," J. G. Cotta, Stuttgart und Berlin, 1904.
- WILLIAM A. BROWN, JR.: *England and the New Gold Standard 1919-1926*, Yale University Press, New Haven, 1929.
- W. J. BRYAN: *The First Battle*, W. B. Conkey Company, Chicago, 1897.
- CARL BÜCHER: *Industrial Evolution*, translated from the 3d German ed. by S. Morley Wickett, Holt, New York, 1901.
- CHARLES J. BULLOCK: *Essays on the Monetary History of the United States*, Macmillan, New York, 1900.
- W. RANDOLPH BURGESS: *The Reserve Banks and the Money Market*, Harper, New York, 1936.
- : "The Velocity of Bank Deposits." *Journal of the American Statistical Association*, June, 1923, pp. 727-740.
- JAMES G. CANNON: *Clearing Houses*, publications of the National Monetary Commission, Sen. Doc. 491, 61st Congress, Washington, 1910.
- W. W. CARLILE: *The Evolution of Modern Money*, Macmillan, London, 1901.
- NEIL CAROTHERS: *Fractional Money*, Wiley, New York, 1930.
- ROBERT E. CHADDOCK: *The Safety Fund Banking System in New York 1829-1866*, Publications of the National Monetary Commission, Sen. Doc. 581, 61st Congress, Washington, 1910.
- CHAMBER OF COMMERCE OF THE UNITED STATES: *Report of the Banking and Currency Committee*, Main Report and Auxiliary Statements, 1929.

- L. V. CHANDLER: *An Introduction to Monetary Theory*, Harper, New York, 1940.
- CHOH-MING LI: "The Theory of International Trade under Silver Exchanges," *Quarterly Journal of Economics*, August, 1939, pp. 491-521.
- GEORGE CLARE and NORMAN CRUMP: *The ABC of the Foreign Exchanges*, 9th ed., Macmillan, London, 1931.
- C. C. COLT and N. S. KEITH: *28 Days of the Banking Crisis*, Greenberg, New York, 1933.
- COMPTROLLER OF THE CURRENCY OF THE UNITED STATES: *Annual Reports*.
- ALZADA COMSTOCK: "British Exchange Equalization Account," *American Economic Review*, December, 1933, pp. 608-621.
- CONGRESS OF THE UNITED STATES: *Joint Commission of Agricultural Inquiry*, Hearings, Part 13, Washington, Government Printing Office, 1921.
- CONSUMER CREDIT INSTITUTE OF AMERICA: *Consumer Credit and Its Uses*, Prentice-Hall, New York, 1938.
- THOMAS CONWAY and E. M. PATTERSON: *The Operation of the New Bank Act*, Lippincott, Philadelphia, 1914.
- IRA B. CROSS: *Domestic and Foreign Exchange*, Macmillan, New York, 1923.
- LAUCHLIN CURRIE: *The Supply and Control of Money in the United States*, Harvard University Press, Cambridge, 1934.
- MAJOR LEONARD DARWIN: *Bimetallism*, Appleton, New York, 1898.
- H. J. DAVENPORT: *Economics of Enterprise*, Macmillan, New York, 1913.
- : *Value and Distribution*, University of Chicago Press, Chicago, 1908.
- : "The War-Tax Paradox," *American Economic Review*, March, 1919, pp. 34-46.
- ANDREW M. DAVIS: "The Origin of the National Banking System," publications of the National Monetary Commission, *Senate Document 582*, 61st Congress, Washington, 1910.
- E. E. DAY: *Statistical Analysis*, Macmillan, New York, 1925.
- DAVIS R. DEWEY: *Financial History of the United States*, Longmans, New York, 1907.
- WILLIAM E. DUNKMAN: *Qualitative Credit Control*, Columbia University Press, New York, 1933.
- J. F. EBERSOLE: *Bank Management, A Case Book*, McGraw-Hill, New York, 1940.
- MARRINER S. ECCLES: "Economic Preparedness for Defense and Post Defense Problems," *Federal Reserve Bulletin*, January, 1941, pp. 12-19.
- PAUL EINZIG: *Exchange Control*, Macmillan, London, 1934.
- : *The Exchange Clearing System*, Macmillan, London, 1935.
- WILFORD J. EITEMAN: "Economics of Brokers' Loans," *American Economic Review*, March, 1932, pp. 66-77.
- HOWARD D. ELLIS: "Mr. Lounsbury on Money," *American Economic Review*, March, 1938, pp. 102-103.
- FRANKLIN ESCHER: *Foreign Exchange Explained*, Macmillan, New York, 1917.
- A. E. FEAVEYER: *The Pound Sterling*, Clarendon Press, Oxford, 1931.
- FEDERAL RESERVE BOARD (now Board of Governors of the Federal Reserve System: *Annual Reports* to Congress and monthly issues of the *Federal*

- Reserve Bulletin*. In joint authorship with the presidents of the Federal Reserve banks, and the Federal Advisory Council, "Special Report to Congress," *Federal Reserve Bulletin*, January, 1941, pp. 1-2.
- IRVING FISHER: *The Making of Index Numbers*, Houghton Mifflin, Boston, 1922.
- : "A Remedy for the Rising Cost of Living, Standardizing the Dollar," *American Economic Review*, supplement, March, 1913, with discussion by others, pp. 20-51.
- : *100 % Money*, Adelphi, New York, 1935.
- : *The Purchasing Power of Money*, Macmillan, New York, 1911.
- EDGAR S. FURNISS: *Foreign Exchange, the Financing Mechanism of International Commerce*, Houghton Mifflin, Boston, 1922.
- CHARLES E. GALBREATH: *Sterling Area: Its Development and Operation*, Doctoral dissertation deposited in the Cornell University Library, 1941.
- CARTER GLASS: *An Adventure in Constructive Finance*, Doubleday, New York, 1927.
- E. A. GOLDENWEISER: "Cheap Money and the Federal Reserve System," *Federal Reserve Bulletin*, May, 1940, pp. 385-389.
- : *The Federal Reserve System in Operation*, McGraw-Hill, New York, 1925.
- BENJAMIN GRAHAM: *Storage and Stability*, McGraw-Hill, New York, 1937.
- FRANK D. GRAHAM: "Achilles Heels in Monetary Standards," *American Economic Review*, March, 1940, pp. 16-32.
- T. E. GREGORY: *The Gold Standard and Its Future*, New York, 1935.
- MARGARET GROBBEN: *Industrial Banking*, Consumer Credit Institute of America, New York, 1940.
- N. F. HALL: *The Exchange Equalization Account*, Macmillan, London, 1935.
- ALEXANDER HAMILTON: *Report on a National Bank*, Dec. 13, 1790, William McKean, Philadelphia, 1821.
- R. W. HAMLET: *National Bank Notes in Time of Crises*, unpublished master's thesis deposited in Cornell University Library, 1912.
- ALVIN H. HANSEN: *Full Recovery or Stagnation*, Norton, New York, 1938.
- : "Progress and Declining Population," *American Economic Review*, March, 1939, pp. 1-15.
- CHARLES O. HARDY: *Wartime Control of Prices*, The Brookings Institution, Washington, 1940.
- S. E. HARRIS: *The Assignats*, Harvard University Press, Cambridge, 1930.
- F. C. HARRISON: "An Attempt to Estimate the Circulation of the Rupee," *Economic Journal*, December, 1891, and June, 1892.
- ALBERT B. HART: *Formation of the Union, 1750-1829*, Epochs of American History Series, Longmans, New York, 1893.
- R. G. HAWTREY: *Currency and Credit*, 3d ed., Longmans, London, 1928.
- H. GORDON HAYES: "Bimetallism Before and After 1834," *American Economic Review*, December, 1933, pp. 677-679.
- KARL HELFFERICH: *Geld u. Banken*, 1 Teil, *Das Geld*, Leipzig, 1910.
- A. BARTON HEPBURN: *History of Coinage and Currency in the United States*, Macmillan, New York, 1903.
- OTTO HEYN: *Die indische Währungsreform*, J. Guttentag, Berlin, 1903.

- J. R. HICKS: "Mr. Keynes' Theory of Employment," *Economic Journal*, June, 1936, pp. 238-253.
- GRENVILLE HOLDEN: "Rationing and Exchange Control in British War Finance," *Quarterly Journal of Economics*, February, 1940, pp. 171-200.
- J. T. HOLDSWORTH and D. R. DEWEY: "The First and Second Banks of the United States," publications of the National Monetary Commission, *Senate Document* 571, 61st Congress, Washington, 1910.
- H. F. HOWARD: *India and the Gold Standard*, Calcutta and London, 1911.
- S. S. HUEBNER: "Arbitrage," *Encyclopaedia of the Social Sciences*, Vol. II, pp. 150-151, Macmillan, New York, 1930.
- HENRIETTA C. JENNINGS: *The Consumer in Commercial Banking*, Consumer Credit Institute of America, New York, 1939.
- INTERNATIONAL MONETARY CONFERENCE OF BRUSSELS: *Report of the Commissioners on Behalf of the United States*, and *Journal of the Sessions*.
- JOSEPH F. JOHNSON: *Money and Currency*, rev. ed., Ginn, Boston, 1905.
- HOMER JONES: "An Appraisal of the Rules and Procedures of Bank Supervision—1929-39," *Journal of Political Economy*, April, 1940, pp. 183-198.
- E. W. KEMMERER: *The ABC of the Federal Reserve System*, Princeton University Press, Princeton, 1918.
- : "A Gold Standard for the Straits Settlements," I and II, *Political Science Quarterly*, Vols. XIX (1904), pp. 639-649, and XXI (1906), pp. 663-698.
- : *Modern Currency Reforms*, Macmillan, New York, 1916.
- : *Money*, Macmillan, New York, 1935.
- : "Seasonal Variations in the Relative Demand for Money and Capital in the United States," publications of the National Monetary Commission, *Senate Document* 588, 61st Congress, Washington, 1910.
- J. M. KEYNES: *Economic Consequences of Mr. Churchill*, 1925. Included in *Essays in Persuasion*, Harcourt, Brace, New York, 1932.
- : *The General Theory of Employment Interest and Money*, Harcourt, Brace, New York, 1936.
- : "The Income and Fiscal Potential of Great Britain," *Economic Journal*, December, 1939, pp. 626-639.
- : *Indian Currency and Finance*, Macmillan, London, 1913.
- : *Monetary Reform*, Harcourt, Brace, New York, 1924.
- : "The Pure Theory of Money. A Reply to Dr. Hayek," *Economica*, November, 1931, pp. 387-397.
- : *A Treatise on Money*, Vols. I and II, Harcourt, Brace, New York, 1930.
- : *A Tract on Monetary Reform*, London, 1924. Included in *Essays in Persuasion*.
- J. LAWRENCE LAUGHLIN: *The Federal Reserve Act, Its Origin and Problems*, Macmillan, New York, 1933.
- : *The History of Bimetallism in the United States*, Appleton, New York, 1886.
- : *Money and Prices*, Scribner, New York, 1919.

- : *A New Exposition of Money, Credit and Prices*, Vols. I and II, University of Chicago Press, Chicago, 1931.
- : *Principles of Money*, Scribner, New York, 1903.
- A. M. LINDSAY: *Ricardo's Exchange Remedy*. Effingham, Wilson, London, 1892.
- R. G. LOUNSBURY: "What Is Money," *American Economic Review*, December, 1937, pp. 765-767.
- G. F. LUTHRINGER: *The Gold Exchange Standard in the Philippines*, Princeton University Press, Princeton, 1934.
- FRITZ MACHLUP: "Bank Deposits and the Stock Market in the Cycle," *American Economic Review*, supplement, March, 1940, pp. 83-91.
- H. D. MACLEOD: *Indian Currency*, Longmans, London, 1898.
- ARTHUR W. MARGET: *The Theory of Prices*, Prentice-Hall, New York, 1938.
- W. MARGRAFF: *International Exchange*, International Exchange, Chicago, 1904.
- ALFRED MARSHALL: *Money, Credit and Commerce*, Macmillan, London, 1923.
- GLENN E. McLAUGHLIN and RALPH J. WATKINS: "The Problem of Industrial Growth in a Mature Economy," *American Economic Review*, supplement, March, 1939, pp. 1-14.
- MIDLAND BANK: "The Disposal of Newly Mined Gold," *Monthly Review*, January-February, 1939, and February-March, 1939.
- LUDWIG VON MISES: *The Theory of Money and Credit*, Harcourt, Brace, New York, 1935.
- MINT, UNITED STATES DIRECTOR: *Annual Reports*.
- WESLEY C. MITCHELL: *History of the Greenbacks*, University of Chicago Press, Chicago, 1903.
- HAROLD G. MOULTON: "Commercial Banking and Capital Formation," *Journal of Political Economy*, Vol. I (May, 1918), pp. 484-508; Vol. II (June, 1918), pp. 638-663; Vol. III (July, 1918), pp. 705-731; Vol. IV (November, 1918), pp. 849-881.
- NATIONAL CITIZENS LEAGUE: *Banking Reform*, The Blakely Printing Company, Chicago, 1912.
- NATIONAL MONETARY COMMISSION: "Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland, and Italy," Senate Document 405, 61st Congress, Washington, 1910.
- THE NEW YORK TIMES: "Ulysses" (Editorial), Feb. 2, 1925.
- M. R. NEIFELD: *Personal Finance Comes of Age*, Harper, New York, 1939.
- ALEXANDER D. NOYES: *Forty Years of American Finance*, Putnam, New York and London, 1909.
- PAUL M. O'LEARY: "The Coinage Legislation of 1834," *Journal of Political Economy*, February, 1937, pp. 80-94.
- F. W. PAISH: "Exchange Equalization Account," *Economica*, February, 1935, February, 1936, and August, 1937.
- J. D. PARIS: *Monetary Policies of the United States 1932-1938*, Columbia University Press, New York, 1938.
- Parliamentary papers (English blue books). Including:
Explanatory Memorandum by the Under-Secretary of State for India. Annual.

- Financial Statement of East India.* Annual.
- Statement Exhibiting the Moral and Material Progress of India.* Annual.
- THE INDIAN CURRENCY COMMITTEE OF 1892, *Report, Minutes and Evidence.*
- THE INDIAN CURRENCY COMMITTEE OF 1898, *Report, Minutes and Evidence.*
- SIMON N. PATTEN: "Mandeville in the Twentieth Century," *American Economic Review*, March, 1918, pp. 88-98.
- CHESTER A. PHILLIPS: *Bank Credit*, Macmillan, New York, 1921.
- A. C. PIGOU: "Mr. J. M. Keynes' General Theory of Employment, Interest and Money," *Economica*, May, 1936, pp. 115-132.
- : "The Value of Money," *Quarterly Journal of Economics*, November, 1917, pp. 38-65.
- L. C. PROBYN: *Indian Coinage and Currency*, Effingham Wilson, London, 1897.
- HAROLD L. REED: "Cancel Member Holdings in Reserve Capital," *New York Herald-Tribune*, Oct. 25, 1931, Section V, pp. 1-2.
- : "Credit Expansion under the Federal Reserve," *American Economic Review*, June, 1918, pp. 270-282.
- : "Economists on Industrial Stagnation," *Journal of Political Economy*, April, 1940, pp. 244-250.
- : *Federal Reserve Policy 1921-1930*, McGraw-Hill, New York, 1930.
- : "Recent experience refutes classical doctrine of gold-price relationship," *The New York Times Analyst*, Dec. 13, 1929, pp. 1147-1148.
- : "Senator Owen's Proposal to Stabilize Foreign Exchange Rates," *American Economic Review*, September, 1918, pp. 661-669.
- : *The Commodity Dollar*, Farrar and Rinehart, New York, 1934.
- : *The Development of a Qualified Gold Exchange Standard in India*, Doctoral dissertation deposited in the Cornell University Library, 1914.
- : *The Development of Federal Reserve Policy*, Houghton Mifflin, Boston, 1922.
- : "The Stabilization Doctrines of Carl Snyder," *Quarterly Journal of Economics*, August, 1935, pp. 600-620.
- WILLIAM RIDGEWAY: *The Origin of Metallic Currency and Weight Standards*, University Press, Cambridge, 1892.
- W. W. RIEFLER: *Money Rates and Money Markets in the United States*, Harper, New York, 1930.
- D. H. ROBERTSON: *Money*, rev. ed., Harcourt, Brace, New York, 1929.
- : "Saving and Hoarding," *The Economic Journal*, September, 1933, pp. 399-413.
- ROLAND I. ROBINSON: "The Capital-Deposit Ratio in Banking Supervision," *Journal of Political Economy*, February, 1941, pp. 41-57.
- LOUIS A. RUFENER: *Money and Banking in the United States*, rev. ed., Houghton Mifflin, Boston, 1938.
- H. B. RUSSELL, *International Monetary Conferences*. Harper, New York, 1898.
- W. F. RYAN: *The Problem of Member Bank Legal Reserves*, doctoral dissertation deposited in the Cornell University Library, 1937.

- EARL B. SCHWULST: *Extension of Bank Credit*, Houghton-Mifflin, Boston, 1927.
- M. S. SCYMCZAK: Address at White Sulphur Springs, March 29, 1940, summarized in the *New York Herald Tribune*, Mar. 30, 1940.
- WALTER SCOTT: *Ivanhoe*.
- H. R. SEAGER: *Principles of Economics*, Holt, New York, 1913.
- KURT SINGER: *Die Motive der indischen Geldreform*, Strassburg, 1910.
- CARL SNYDER: *Capitalism the Creator*, Macmillan, New York, 1940.
- : "A New Index of Business Activity," *Journal of the American Statistical Association*, March, 1924, pp. 36-41.
- : "A New Index of the General Price Level from 1875," *Journal of the American Statistical Association*, June, 1924, pp. 189-195.
- : "A New Index of the Volume of Trade," *Journal of the American Statistical Association*, December, 1923, pp. 949-963.
- : "The Problem of Monetary and Economic Stability," *Quarterly Journal of Economics*, February, 1935, pp. 173-205.
- FREDERICK SODDY: *Wealth, Virtual Wealth and Debt*, 2d ed., Dutton, New York, 1933.
- WALTER E. SPAHR: *The Clearing and Collection of Checks*, Bankers Publishing Company, New York, 1926.
- W. F. SPALDING: *Eastern Exchange, Currency and Finance*, Pitman, London, 1918.
- O. M. W. SPRAGUE: "History of Crises under the National Banking System," publications of the National Monetary Commission, *Senate Document* 538, 61st Congress, Washington, 1910.
- : "Loans and Taxes in War Finance," *American Economic Review*, supplement, March, 1917, pp. 199-213.
- WILLIAM H. STEINER: *Money and Banking*, Holt, New York, 1933.
- SUPERINTENDENT OF BANKS OF THE STATE OF NEW YORK: *Report for 1940*, Legislative Doc. (1941) No. 24.
- F. W. TAUSSIG: "The Plan for a Compensated Dollar," *Quarterly Journal of Economics*, May, 1913, pp. 401-416.
- : *The Silver Situation in the United States*, American Economic Association Publications, Vol. VII, 1892.
- TEMPORARY NATIONAL ECONOMIC COMMITTEE: "Final Report and Recommendations," *Senate Document* 35, 77th Congress, Washington, Mar. 31, 1941.
- WOODLIEF THOMAS: "The Banks and Idle Money," *Federal Reserve Bulletin*, March, 1940, pp. 192-200.
- TWENTIETH CENTURY FUND, INC.: *The Security Markets*, New York, 1935.
- CYRIL B. UPHAM: "Banking Reform through Supervisory Standards," *American Economic Review*, supplement, March, 1940, pp. 234-237.
- JACOB VINER: *Studies in the Theory of International Trade*, Harper, New York, 1937.
- LEONARD WRIGHT: *The History and Mechanism of the Exchange Equalization Account*, University Press, Cambridge, 1939.
- FRANCIS A. WALKER: *International Bimetallism*, Holt, New York, 1897.

- C. M. WALSH: *The Measurement of General Exchange Value*, Macmillan, New York, 1901.
- PAUL M. WARBURG: *The Federal Reserve System, Its Origin and Growth*, Vols. I, II, Macmillan, New York, 1930.
- PELATIAH WEBSTER: *Political Essays on the Nature and Operation of Money, Public Finances and Other Subjects*, including "An Essay on Credit," Joseph Cruikshank, Philadelphia, 1791.
- DAVID WEINTRAUB: "Effects of Current and Prospective Technological Developments upon Capital Formation," *American Economic Review*, supplement, March, 1939, pp. 15-32.
- ANDREW D. WHITE: *Paper Money Inflation in France*, Appleton-Century, New York, 1876.
- HORACE WHITE: *Money and Banking*, revised and enlarged by Charles S. Tippetts and Lewis A. Froman, Ginn, Boston, 1935.
- ERNESTINE WILDER (compiler under the direction of the Consumer Credit Institute of America): *Consumer Credit Bibliography*, Prentice-Hall, New York, 1933.
- J. H. WILKINSON: *Investment Policies for Commercial Banks*, Harper, New York, 1938.
- ANEURIN WILLIAMS: "A Fixed Value of Bullion Standard," *Economic Journal*, June, 1892, pp. 280-289.
- JOHN H. WILLIAMS: "Economic and Monetary Aspects of the Defense Program," *Federal Reserve Bulletin*, February, 1941, pp. 95-98.
- : *Argentine International Trade under Inconvertible Paper, 1800-1900*, Harvard University Press, Cambridge, 1920.
- H. P. WILLIS: *A History of the Latin Monetary Union*, University of Chicago Press, Chicago, 1901.
- : "The Banking Act of 1933—An Appraisal," *American Economic Review*, supplement, March, 1934, pp. 101-110.
- : *The Federal Reserve*, Doubleday, New York, 1915.
- HARTLEY WITHERS: *Money changing, an introduction to foreign exchange*, Smith, Elder, London, 1913.
- , SIR R. H. INGLIS PALGRAVE, AND OTHERS: "The English Banking System," publications of the National Monetary Commission, *Senate Document 492*, 61st Congress, Washington, 1910.
- ALLYN A. YOUNG: "The Measurement of Changes in the General Price Level," *Quarterly Journal of Economics*, August, 1921, pp. 557-573.

Index

A

- Acceptance houses, origin of, 492
- Aldrich bill, 250
- Aldrich-Vreeland Act, 360, 365
- Angell, James W., 435, 435*n.*, 437
- Arbitrage in foreign exchange, 104–105
- Assets, bank, arrangement of, 182–183
- Austria, transition to gold standard, 117, 135–137

B

- Balance of payments, correction of when displaced, 88–91
- elements of, 85–86
- Bank of England, note issues of, 13, 14, 304
- relation of to Exchange Equalization Account, 335–343
- support of gold standard, 76
- Bank of France, open market powers of, 76
- Banker's acceptance, under Federal Reserve Act, 97
- limitations on, 97, 492–493
- use in import financing, 98
- Banking Act of 1933, 189
- Banking Act of 1935, 262
- Banking Principle, contrasted with Currency Principle, 48
- Bimetallism, abandonment of, in the Latin Union, 112
- in the United States, 111–114, 117
- arguments of proponents, 114–115
- early difficulties of, 107–109
- in France, 60, 76
- relationship to exchange rates, 115

Bimetallism, relationship to price levels, 116

- Bland-Allison Act, 16
- Bond portfolios, effects of depreciation of, 352–354
- poor quality of in 1933, 352
- Branch banking, controversy about, 475–477
- effect of restriction of, 246
- legislation, 503–504
- Brown, W. A., Jr., 304*n.*, 305*n.*, 310*n.*, 318*n.*, 490
- Bryan, William Jennings, 142, 436
- Bücher, Carl, 44, 489
- Bullock, Charles Jesse, 487
- Burgess, W. Randolph, 10*n.*, 148*n.*

C

- Carlile, W. W., 9*n.*, 42, 106
- Capital, bank, amount required, 206–209
- increase of, after 1933, 209–211
- R.F.C. subscriptions to, 361–364
- relationship, to bank assets, 211–214
- to deposits, 208–209, 214–216, 502–503
- to bank solvency, 205
- Carothers, Neil, 488
- Cash balance, Cambridge approach to analysis of value of money, 159–161
- Central Reserve cities, list of, 236
- Chartering of banks, 472–474, 479–480
- Chase, Salmon P., 233
- Checks, collection of, 62–64, 69–70
- Churchill, Winston, 321
- Clare, George, 74*n.*

Clearing House certificates, 248
 Coinage acts, American, 487
 Commodity currency, effect of, on confidence, 44-46
 Commodity dollar, scheme to stabilize prices, 391-400
 Correspondent banks, as reserve holders, 245-246
 Country banks, 237
 Credit Anstalt, failure of, 333
 Cross, Ira B., 494
 Crump, Norman, 74*n*.
 Currency, amount in circulation, 25
 circulating, contrasted with redemption, 7
 definition and functions of, 1-6
 emergency, issued in 1933, 360, 362-363
 return flow of in 1933, 365
 subdivisions of, 7-8
 withdrawals of, from banks, in 1933, 357
 Currency Principle, contrasted with Banking Principle, 48
 Currie, Lauchlin, 170*n*., 437

D

Davenport, H. J., 453, 453*n*.
 Debits, bank, volume of, 27
 Deflation, definition of, 499-500
 Deflation Conspiracy, 312
 Deposits, bank, confusion of with reserves, 230-231
 distribution of among banks, 30-38
 genesis of, 30, 500-501
 interest payments on, 226-227
 limits of expansion of, 285-288
 time, distinguished from demand, 147, 165-170
 Devaluation, effects of, in 1933, 389-390
 Devaluation movement in United States, origin of, 366, 368
 Discount operations (*see* Federal reserve banks)
 Discount houses, origin of, 492

Domestic exchange, definition of, 61
 development of, in the United States, 62-69
 under Federal Reserve System, 69-70
 premiums and discounts on, 66-68

E

Eccles, Marriner, 408, 409, 418*n*.
 Ellis, Howard S., 485
 Emergency Banking Act, 274, 361-364, 369-370
 Equation of exchange, formula for developed, 143-150
 usefulness of, 151-158
 Escher, Franklin, 71*n*.
 Exchange clearings, 390, 508
 Exchange depreciation, effects of in England, 335-336
 in wars, 296-297
 policy of in 1933, 370-372
 wisdom of in 1933, 378-382
 Exchange Equalization Account, financing of, 385
 operations of, 338-345, 356, 379
 origins of in England, 337-338
 Exchange rates (*see* Foreign exchange rates)

F

Federal Deposit Insurance Corporation, proposal to modify assessments of, 420-421
 Federal reserve bank notes, 22-23, 289, 362-363
 Federal reserve banks, directors of, how chosen, 258
 discount operation of, 254-257, 269-270, 273-275, 277, 362, 401-402, 406
 expansion potential, in 1933, 383
 in 1940, 413
 guides to credit policies of, 401-412
 note issues of, 13-15, 22, 23, 49, 266-268, 288

- Federal reserve banks, open market
 operations of, 268-273, 484
 powers and operations of, 252-257
 reserve requirements of, 265
 stockholders of, 257
 Federal Reserve Board, powers of,
 258-263
 Federal reserve cities, authorized
 number of, 252
 required, number of, 252-257
 Federal Reserve Notes (*see* Federal
 reserve banks, note issues of)
 Finance bills, 99-104, 494
 Financial statements, use of, in
 credit extension, 180-182
 First United States Bank, 241, 489-
 490
 Fisher, Irving, 148*n.*, 395, 395*n.*
 Foreign exchange, bills employed in
 operation of, 77-78, 99
 correction in fluctuation of rates,
 88-91
 rates, between gold and silver
 standard currencies, 92-93
 under fixed mint pars, 71-80
 under inconvertible paper cur-
 rencies, 83-85
 speculation in, 99-104
 types of problems, 71
 Franc, collapse of, in France, 328-
 329
 stabilization of, 329
- G
- Germany, inflation of currency in,
 155
 Glass-Steagall Act, 267, 274, 355,
 410, 420
 Gold, act to revalue, 373
 contracts to remit voided, 369
 effects of revaluation of, 378-390
 embargo on shipments, 370
 influence on output of revaluation
 of, 385-387
 withdrawal of from circulation,
 368-369, 373, 375
 Gold bloc, origin of, 381-382
 Gold bullion standard, advocated for
 India, 130
 in England, 60
 Gold exchange standard, misman-
 agement of, 137-139
 rejected in India, 128-130
 Goldenweiser, E. A., 411, 411*n.*
 Gold Reserve Act of 1934, 368, 373-
 376, 385
 Gold standard, advantages of, 57-59
 in Austria and Russia, 75
 definition of, 53, 490-491
 in England, 75, 303-306
 extension of influence of, 106-
 115
 future of, 455-457
 in Germany, 75
 management of, 59-60
 mechanics of, 53
 nineteenth century triumph of,
 115
 in United States, 75
 Gold Standard Act in England in
 1925, 321
 Gold Standard Act of 1900, provi-
 sions of regarding Treasury
 notes, 24
 reserve provided against green-
 backs, 21
 significance of, 491-492
 Gold Standard Amendments Act,
 334
 Greenbacks (*see* United States notes)
 Gregory, T. E., 491
- H
- Hall, N. F., 379*n.*
 Hamilton, Alexander, 111, 229, 489
 Hardy, Charles O., 155*n.*
 Harrison, F. C., 120*n.*
 Hawtrey, R. G., 12, 109*n.*, 485
 Hayes, H. Gordon, 488
 Holiday, bank, in United States in
 1933, 361, 368
 Hull, Cordell, trade policies of, 382

I

- Index numbers of prices, 495-498
- Indian Currency Committee of 1898,
 - attitude of toward gold exchange standard, 132
 - hearings of, 125
- Indo-China, gold exchange standard of, 133
- Inflation, definition of, 499-500
 - in wars, 297-298
- Inflation Bill, amendment of in 1934, 374
 - passage of, in 1933, 371
 - unrepealed powers of, 418
- Investments, bank, causes of increase of, 191-193
 - legal controls of, 195-196
 - recent increase of, 194
 - supervisory control of, 197-204

J

- Jackson, Andrew, 242, 490
- Jefferson, Thomas, 113, 487
- Jones, Jesse, 423

K

- Kemmerer, E. W., 486
- Keynes, J. M., cited, 133, 159, 161, 301, 302
 - views of on employment, 438-453
- Knickerbocker Trust Company, in panic of 1907, 248

L

- Latin Union, development of, 112
 - support of silver market, 117
- Laughlin, J. L., 45*n.*, 48*n.*, 140*n.*, 142, 486
- Law, John, currency, responsible for, 20, 45, 114, 488
- Legal tender power, importance of, 28, 486
- Legislation, monetary, in England, 109-110, 321, 334

- Legislation, monetary, in United States, Act of 1873, 15, 117
 - Bland-Allison Act, 16
 - Sherman Purchase Act, 16
 - Silver Purchase Act of 1934, 17
- Lindsay, A. M., gold hoarding, fear of, 125
 - gold exchange plan of, 125-127
 - plan of, rejected, 128
 - prophecy of, 131
- Liquidity preference, in Keynesian philosophy, 440
- Loans, bank, consumer, 219-223
 - deviations from orthodoxy in granting of, 183-185
 - importance to banks, 177
 - legal restrictions on, 188-189
 - liquidity principle of granting of, 185-186
 - rates on, 222-223
 - real estate, 186-188, 218-219, 470-471, 481-482
 - shiftability principle of, 185-186
- London, as world financial center, 74-75
- Lounsbury, R. G., 485

M

- Managed currencies, difficulties of, 50
 - tendencies toward, 47-49
- Marshall, Alfred, 485
- Mexico, gold exchange standard of, 133
- Mises, Ludwig von, 159
- Mississippi Bubble, 45
- Money, contrasted with currency, 5, 7
 - definition of, 2, 485
 - functions of, 9-10
 - origins of, 3, 8, 9, 489
 - value of as unit of account, 4, 5
- Morgenthau, Henry, Jr., 382, 424

N

- National bank notes
 - inelasticity of, 247
 - retirement of, 375, 506-507

National Banking System, academic criticism of, 246-248
breakdown in 1907, 248-250
origins of, 242-243
National banks, branches of, 243
loan restrictions of, 244
note issuing powers of, 244, 288-289
National Industrial Recovery Act, 371*n*.
National Monetary Commission, 250

O

O'Connor, J. F. T., 200
O'Leary, Paul M., 488
Open book account, in foreign trade, 94
Open market operations (*see* Federal reserve banks)

P

Parallel currencies, 106-107
Pearson, Frank A, 142
Peel Act, 48
Peseta, 82
Philippine Islands, gold exchange standard of, 133
Pickering, Timothy, 108
Pigou, A. C., 159
Pittman Act, 22-23
Pound sterling, at close of 1924, 315-322
decline of in 1932, 356
after First World War, 306-311
Production indices, use of in credit control, 406-407
Probyn, L. C., advocate of gold bullion standard, 130
Pujo "money trust" investigations, 250
Purchasing power parities, in relationship to exchange rates, 307

R

Ratings, in colonial currencies, 487
Reconstruction Finance Corporation, power over bank directors, 189

Reconstruction Finance Corporation, publication of loans of, 356-357
purchases of gold, 372
Redemption currency, difficulty of measuring, 27
necessity of, 27, 32-34
Reopenings, bank, after 1933 closures, 361-362
problems of in 1933, 358-360
results of, 364
Reserve cities, 236-237
Reserves, bank, adjustment of, 175-176
comptroller's rulings about, 238
multiplication of in bank deposits, 30-38
one hundred per cent proposal for, 33, 425-437
offsetting of, 175-176
pyramiding of, 237
reserve system's proposals for, 419-420
requirements for, against government deposits, 238
deposit, origin of legal requirements for, 228-235
member bank, factors determining amount of, 276-282
ratios of to liabilities, 34
requirements for, 1917-1941, 264
Ridgeway, William, 9*n*.
Rieffler, W. W., 282, 282*n*.
Robertson, D. H., 159, 450
Rupee, depreciation of in India, 121
effects of depreciation of, 121-122
value of lifted, 122-125
Russia, transition of, to gold standard, 117
Ryan, W. F., 229*n*., 230, 230*n*., 233*n*., 234*n*.

S

Savings, related to investment, 438-453
Savings banks, place of, 479-480, 482-483

Savings and loan associations, 479-480, 482-483

Seager, Henry R., 485

Second United States Bank, hostility of Jackson against, 242, 489-490

Securities Exchange Commission, Act, 262

Security markets, absorption of credit by, 330-332
collapse of, 347

effects of collapse of, 348

Service charges, 224

Silver dollars, 15-18

Silver purchase acts, 15-18

Silver standard, in Austria, 117
increased difficulties of, 134-135
in India, 123
in Russia, 117

Simons, Henry C., 437

Snyder, Carl, 146, 146*n.*, 326, 326*n.*, 408, 409, 441

Soddy, Frederick, 437

South Africa, gold exports of, 304

Specie Resumption Act, 21

Stabilization, exchange rate, necessity of, 86-88
organization for, 374-375

Standard monetary, difficulty of maintaining, 47-49
effect of on confidence in currency, 44-46

evolution of commodity standards, 42-44

Steiner, William H., 494

Storage units, under Graham plan, 459-462

Straits Settlements, gold exchange standard of, 133

Strong, Benjamin, 318, 327, 330, 346, 351

Subsidiary currency, regulation of, 18-20

relation to bimetallism, 113

Suffolk Bank, as redemption agency, 232

Supervisory agencies, 470, 474-475

Suspensions, bank, 349

T

Temporary National Economic Committee, report of, cited, 415
Thomas Amendments (*see* Inflation Bill)

Time Deposits, use of as payment media, 501-502

Trade acceptance, 96

Trade paper, 95-96

Treasury notes of 1890, authorization of, 23
cessation of insurance of, 23
substitution of silver certificate for, 24

Tripartite Agreement, 390, 507

U

United States Chamber of Commerce, pronouncement of, on price policy, 399-400

United States notes, gold reserve against, 21
resumption of specie payments on, 21
volume of, in circulation, 21

V

Value of monetary unit, determination of by equation of exchange, 143-158

determination of under metallist doctrines, 141-143, 162

Velocity, note on importance of, 499

W

Waight, Leonard, 334

War finance, in 1916-1917, 402-403
in 1940-1941, 413-414
suggestions about from Federal Reserve System, 418-424

Warren, G. F., 142, 367*n.*

Webster, Pelatiah, 229

Williams, John H., 414, 414*n.*, 415, 415*n.*

Withers, Hartley, 80*n.*, 492

World wars, financial effects of, 292

